

ENVIRONMENTAL PERCEPTION IN SIKH FAITH

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PERFACE

As mentioned in the preface of Tract No. 422 Guru Nanak Dev Mission is publishing tracts from time to time some of the Research Papers received by Dr. Ganda Singh Memorial Trust. This is one of the research papers, which is being published as Tracts Nos. 425, 426, 427. This research paper is written by Prof. Gopal Singh Puri (Liverpool) and the author has considered this new subject very elaborately though some of his views may not be acceptable.

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Introduction

At the time of the Gulf crisis, Environment remains to be an issue of the gravest importance to the future of Industry, Investments, Politics and Religion. Giving the scenario of U.K. mid-September week in 1990 with inflation running more than 10%, Paul Barker writes Everybody is seeing **GREEN**. For the Tories, Chris Patten is about to produce his much trumpeted **environmental overview**. Labour is all set to outblast him. With the freedom that comes from not needing to enact it, the Liberal Democrats have just suggested an all-embracing "**CARBON TAX**" which the European Commission also favours.

The statement of CO₂ emission per inhabitant per year published recently for the European Commission Countries shows somewhat favourable position of Britain :

West Germany	—	3288
Denmark	—	3250
Holland	—	2973
Belgium	—	2896
UK	—	2815
Italy	—	2288
France	—	1797
Ireland	—	1768
Greece	—	1633
Spain	—	1286
Portugal	—	757

The reduction of CO₂ emission in Developed Countries is controlled by the Treasury, whose arithmetic is "grey, not green" and industry has to boast of its achievements in big and bigger cars, than an improved engine achievements, only religion is left

to heave a sigh-O Lord, (as St. Augustine almost said), make us environmentally sound, but not yet.

The much awaited Environment paper has been published which is a ten year blue print for Conservation Plans for Conservation, reduction on CO₂ emission both in electricity generation and in cars are included. Much will depend upon the actions, with the economy going in recession and the cost of Petrol climbing to nearly £ 3 per gallon. Both the Labour and the British Green Parties are out to woo voters with cries of the British "dirtiest man of Europe", but behind all this is human nature and the life style of individuals of the multicultural society.

The European Parliament has Green M.P.s. but unless all Political Parties respect the environment, the Grey environment is likely to become Black than Green in the future, all over the world.

Of all the Neo-Britons or Neo-Europeans, Indians have a sensitive eye and ear for Nature, both at home and in the West. Some of them worship Nature. But Sikhs are lovers of Nature (62, 63, 64). Whether engaged in agriculture, defence, sport, social or moral order, they have excelled many others through inspiration from God and Guru (see 97). So few have achieved so much in such a short time of their history. Their faith is their strength. This faith is the Environment friendly, as Guru Nanak says to his Sikhs that :

Rati ruti thiti var

"God made the night and the day
The days of the week and the months;
And he made the seasons.

He made winds to blow and water to run,
He made fire, He made the Lower regions;
In the midst of all this He set the earth as a temple,
On it He set a diversity of creatures,
Various in kind and colour

Endless is the number of their names.
 All these lives are judged by their actions,
 God is True and in His Court is Truth dispensed".

This is the description of the Realm of *Dharma* or duty on earth, given in *Pauri* (step) 34 of *Japji* or the Meditation (Morning Prayer) of the Sikhs to recite and remember day in and day out. Earth is the Temple of God. How dare anyone pollute it—is the sikh perception of the Environment.

Nature conservation is a creed, and "so shall you reap as you sow," is the prophetic voice running through the ecology of Nature, man and God. (46, 53, 58)

In the epilogue of the Morning Prayer referred above, Guru elaborates-Pavan Gurupani pita :

Air like the Guru's word gives us the breath of life :
 Water sires us, earth is our mother.
 Day and night watch over the world
 And in whose lap we all play.
 On good as well as our bad deeds
 shall He read His judgement.

In the Sikh faith, the pollution of air, water or land, which are the gifts of God, is sinful and the actions of those responsible will be judged in the True court of the Lord (65).

One is further reminded that "Priceless are His gifts.....and Priceless His Mercy and Priceless His will (pauri, 26).....The Guru laments that Many waste His gifts in idle pleasure. And many receive His gifts and yet deny Him. And many are the fools who merely eat. Many are always sorrowing and hungering. Sorrow and hunger are also Thy Gifts", says Nanak (pauri 25).

This concept, that both Pain and Pleasure are bestowed by God (55) may be new to some religions. But there is no Satan or other than God. He is one and the only one God—both Transcendental and Immanent, far and near, and within man too. (66). There is *Maya* or illusion, but this too is created by God. (58, 59, 61).

Ninety per cent of the World population believes in one or the other living religions. There is the common belief in all, that God, the Creator lives in His creation (70). Therefore, "If God is in nature, nature itself becomes Divine, and from that point it becomes reasonable to argue, as H.R.H Prince Philip (40, P. 227) says that reverence for God and nature implies a responsibility not to harm it, not just for our own selfish interests, hut also as a duty to the Creator". This moral imperative is recognised by all the great religions (64), and more so in the Sikh faith.

Guru Arjan in the *Sodar Rehiras* (Evening Prayer) says of man that "Thou hast acquired this human frame. This is thy opportunity to be one with God". But in the search for pleasures thou hast filled the city of thy body with lust and with anger, (Guru Ramdas in *Sohila*, Bed time Prayer).

Guru Arjan humbly entreats :—**Karu benti suno mere mita**
 "I supplicate thee, my friend, to listen to me.
 Here and now is the time to serve the saints.
 Here in thi³ world, acquire the gain of godliness;
 Thou shalt have ease enough in the world to come.
 By day and night the sum of the sums of days decreaseth.
 Seek the True Guru and balance these accountts".

Here in, there is a reference to the transmigration of the soul. But it refers to some persons who got stuck in the cycle of birth and death due to their actions. Life and death and another life becomes a cyclic phenomenon.

There is no doubt that the bulk of pollution is the result of over-industrialisation, in electricity generation and transport and the selfish economic order that allows one fourth of the world population in the Developed world to consume almost three fourths of the world resources. The three fourths of humanity, labelled variously as under-developed, illiterate, poor, over-populated, is facing shortages of every kind for no fault of their own. In this development game the environment is so much deteriorated that everyone, everywhere is likely to suffer.

Most of the Developing countries are under burden of debt, which, even servicing charges, they cannot pay. The desire to develop but environment degradation is the issue that they have to look to more than the Developed world, (72, 73), for fighting poverty (48,60). Poverty is the greatest pollution.

The age of crisis

We are thus living in an age of Environment crisis (11,40,113). The global warming, changing climatic conditions, the imminent rise of the sea level, and consequential fear of flooding, drought, famine, epidemic and disruption of national and international economics would affect humankind all over the world (70). It is understood that causal factors in this case are man-made and are linked with the destruction of Tropical Rain forests (76). In Industrialisation, Transporation, excessive fossil fuel consumption, there is an incessant release of poisonous gasses like CO₂, CO, NO₂, SO₂, Methane, etc., that accumulate in the upper atmosphere to produce a Greenhouse effect and destroy the Ozone Layer (104, 105). The case of CPCs, though also man-made, is somewhat uneven in origin, as also of pollution caused by industrial wastes, agricultural production, of rivers, oceans, beaches. But the effect is pretty much the same of destruction of the environment (103). Acid rain, nuclear waste, pesticides, fertilisers and such other factors have all combined to bring all mankind together to work for OUR COMMON FUTURE to meet the GLOBAL CHALLENGE (2, 104, 107).

About those in authority, politically, socially or economically who have neglected their responsibility of conservation and pollution control, Guru Nanak's words uttered at seeing conditions of injustice and war in the beginning of the Moghul Rule in the 15th century in India seem to be appropriate to quote here as a stern warning for the future :

He says (A.G., p. 145) **Kal kati raje kasai dharam pankh kar Udaria.**

This age (Kalyuga, in which we live today)
The Kings are butchers,

Goodness hath taken wings and flown.
 Into the dark of falsehood,
 I espy not the moon of Truth anywhere.
 I grope after Truth and am bewildered.
 I see no path in the darkness;
 It is the obstinacy with which Man
 Clings to his petty selfhood
 That causeth this anguish;
 Nanak asketh : where is the path of salvation ?

He goes further :

Violence, worldly love, greed and pride
 Are insatiate like a restless river.
 Unless the fear of God is thy food and drink
 Unless the fear of God is thy whole sustenance
 Degradation and death are thy lot, O Man !

— — — (87, A.G., p. 151)

As I write these lines (23rd Sept. 1990), I see the horizon full up with gathering clouds of destruction, starvation and death in the Gulf crisis. Built up military might, UNO sanctions against Iraq, refugee problem : Added to this is Russian, Indian, Pakistani, South African and Liberian anguish over their national strifes and economy, have no easy solution too. Warfare would further deteriorate the environment and fill the people's mind with mental anguish.

Guru Nanak on his travels in the late 15th century had lived in Baghdad, Mecca, Medina, Kabul and other cities in the Middle East countries. He narrates (A.G. pp. 417, 418) the scenes of destruction :-

If the God wills He blesses with Glory
 And if he so Wills, He punishes thus
 The Kings had lost their heads and revelled in revelries.
 The Muslims have lost their prayer time,

And the Hindus their worship; stables, horses, drums, swordbelts, chariots and dresses of soldiers all are lost. Looking

glasses where the beauteous rates were seen are also gone. Homes, mansions, inns where beauteous brides lounging on a cosy bed, ... betal leaves and their sellers, harems, have all vanished like a shadow... Hearing of the invasion of Babur, millions of Muslim divines prayed for his balt. But he burnt the age old temples and resting places and the princes cut into pieces, were thrown to the winds. Not a Mughal was blinded by God. And no miracle, no charm saved man from disaster" (91, 92, 93).

Similar crisis of militant encounter is witnessed today and like Mahabharat modern Karuas and Pandavas are facing each other for the deadly combat. At the base of all this is the increasing world population, decreasing resources and degrading environment (6, 11, 12). The Human ecosystem is breaking in all the continents (19), its restoration is through Peace, Justice and respecting the Integrity of Creation, recently voiced by the World Council of Churches (72).

It is not merely the world geography or the changes in economy, but serious ecological disruptions in our life support systems have taken place, that threaten the very life and wellbeing of the existing 5 billion human beings and millions of plants and animal species, some of which have already become extinct, others are threatened on the way to extinction (32).

Life is an interwoven phenomenon. All humankind is inter-dependent, inter-involved and interwoven into the general web of life in which the humblest viruses or bacteria and the grandest whale or elephant are equally important for the stability of the ecosystem. The loss through destruction of genetic resources is still more serious, and probably irreversible.

The Biosphere is a thin layer connecting the vast Lithosphere, Hydrosphere and Atmosphere for the continued existence of life on the Planet earth (14).

Population and Environment

The population of the earth is rapidly increasing, though selectively, in the finite environment and may stabilise at between

8 billion and 14 billion, sometime in the 21st century (12). More than 90% increase would be in those areas, which are both economically poor and during the present century, since 1950, have been losing fast their ecological stability, as well.

In the Developed parts of the world, with 10% of world population and 80% of natural resources-consumption, economic growth has galloped to create a thirteen trillion US dollars world economy, with fiftyfold increase in industrial production.

In spite of the environmental warming and global crisis the trend of industrial development is not showing any sign of slowing down; on the other hand competing world economy and open world market would produce a five or tenfold increase in the next 50 years or so, especially with the changes in Eastern European countries.

As more and more resources are diverted for the building of houses, transport, farms, factories, recreation, etc , more and more destruction of the wilderness with diminishing wildlife, forests, soils, rivers, seas would be accelerated, posing increased threats to the survival of humankind (18, 67), with its civilisation, culture, social order, religion in its totality with lock stock and barrel.

Our Common Future

The World Commission on Environment and Development after a decade of studies deliberations and consultations have suggested to approach the problem of environmental degradation economically, industrially, legally and ecologically, both individually as well as collectively, by nation states (2). For sometime in the last year or two several plans of action for sustainable development, CO₂ reduction, alternative resources and clean energy, re-afforestation, population planning, new educational and information technology have been made, with little progress so far. Politics-economics almost always outweigh ecology and Conservation. Additional scientific information is becoming to hand to reveal the extention of damage to the ozone layer and the further building up of greenhouse gasses, rather than any diminishing. The causes for this inaction or no-action sea-

saw debating is again economics, poverty, population, though knowledge may be available.

Charles Caccia, M.P. one of the WCED Consultants warned against inaction by respective Governments—"How long can we go?" he says "and safely pretend that the environment is not the economy, is not health, is not the pre-requisite to development, is not recreation? Is it realistic to see ourselves as *managers* of an entity out there called the environment, extraneous to us, an alternative to the economy, too expensive a value to protect in difficult economic times? When we organise ourselves starting with from this premise, we do so with dangerous consequences to our economy, health and industrial growth."

"We are now just beginning to realise that we must find an alternative to our ingrained behaviour of burdening future generations resulting from our misplaced belief that there is a choice between economy and the environment. That choice in the long term, turns out to be an illusion with awesome consequences for humanity."

Vertical or linear growth-crazy ones forget that the most precious things for life, like air, water, sun, earth and sky, are the free gift to us from the Creator. But there is a limit to one's greed and lust in selfish manipulation. Coal, gas, oil and forests are also given free, the only price is our making them available for use.

Processing, transportation, marketing and consumption bring in economic matters.

In the ego of possession one forgets that fossil fuels are finite resources and forests also are finite, though renewable. The same is true of millions of plant and animal species (70). They cannot be weighed in any currency, as we have learnt after pricing them to extinction. Solar, tidal, water, aerial are flow energies, but some less glamorous to most countries blessed with fossil fuels, or the capacity to acquire these.

In this connection, I should like to quote another consultant of the WCED report to emphasise a point given beautifully in an

anonymous Arabian Proverb that reads "If you have two pennies left, spend one on bread and one on a flower. The bread would give you life and the flower an urge for living." It is not enough to have a high standard of living, but a life of better quality is equally, if not more important, in the long run.

Hon. Victoria Chitepo, Minister of Natural Resources and Tourism of the Government of Zimbabwe writes that "The remarkable achievements of the celebrated Industrial Revolution are now beginning seriously to be questioned principally because the environment was not considered at the time. It was felt that the sky was so vast and clear that nothing could ever change its colour, our rivers so big and their water so plentiful that no amount of human activity could ever change their quality, and there were trees and natural forests so plentiful that we will never finish them. After all, they grow again."

"Today we should know better. The alarming rate at which the Earth's surface is being denuded of its natural vegetation cover seems to indicate that the world may soon become devoid of trees through clearing for human development."

Environment and Religion

In this connection, I should like to add that those who are inhabitants of natural forests and wilderness value pure sky, air and water as their living environment, know full well the importance and precious nature of their gifts of God, the Creator. As their religious duty they care, love and even worship these elements as gods and goddesses, the givers of life and believed them so sacred that made them the very objects of their adoration and prayers. (7, 35, 78).

Much of the contents of most world religions is concerned with the maintenance of the quality of its environment, its forests, waters and air. This sanctity of Environment was recently brought home to the Industrial world by H.R.H. Prince Philip, Duke of Edinburgh, as President of World Wide Fund for Nature at the celebration of the 25th anniversary of WWF at the Assisi

Conference to which leaders of Religions were invited along with Scientists to emphasise "the practical and moral reasons why conservation is important and to clarify the motives that will help people to commit themselves to the cause of Conservation." (40).

Response from the Hinduism, Buddhism, Christianity, Judaism and Islam was recorded at the Conference and the Sikh response (62, 68) was later made known to indicate that besides Economic and scientific motive there is another and far more important motive of religion, moral and spiritual concerns to encourage respect and for the wholehearted participation for natural environment conservation.

At the basilica of St. Francis of Assisi, the Roman Catholic patron Saint of Ecology who lived about 500 years ago, Prince Philip noticed that "*There are two kinds of economy-the economy of money and the economy of Nature. The one cannot exist independently of the other.*" Therefore, an agreement was made of a *New and Powerful Alliance between the forces of Religion and the forces of Conservation* to tackle the Global Environmental crisis. The role of Sciences, Technology and Religion has been one of the subjects of the Rome Conference on Future Studies in the early 70s (43, 44) and the Assisi Conference has refreshed interest in the part of Religion in this.

The New Road-the Bulletin of the WWF Network on Conservation and Religion issue No 14 May-June 1990, record two notable achievements of this New Alliance. First the Moscow meeting of the Global Forum of Spiritual and Parliamentary leaders attended by President Gorbachev and the Rev. Moon among many Political and Religious leaders. An appeal was made by Carl Sagan for "Science and Religion to work hand in hand to preserve Earth's environment".

The Forum believed that "the *Environment crisis is intrinsically religious*. All faiths, traditions and teachings, freely instruct us to revere and care for the natural world.....Yet sacred creation is being violated and is in ultimate jeopardy as a result of long-standing human behaviour. A religious response is essential to

reverse such longstanding patterns of neglect and exploitation."

Secondly, in the closing session of the caring for the Creation Conference held in Washington in May 1990, the Chairman of WWF-US expressed the view that "Religions should be Environmental Leaders" and suggested that the Christian Church give at least equal time to the rest of God's creation", chastising the long-prevailing emphasis on human life to the exclusion of other species.

At the North American Conference on Religion and Ecology Dr. Martin Palmer expressed that "*We want to move religious leadership to practical action, we want to introduce the notion of celebration into nature Conservation.*"... ...

In celebrations, festivals, workshops, music, song, drama one can express emotion and distress at what man has done to the planet. It is interesting to note from the Issue No. 14 of the New Road that the North American Sikh participants to this Conference expressed their concern and appreciation of the Environment through singing to the tunes of Divine Music, hymns of *Guru Nanak* from the Guru Granth Sahib.

The World Council of Churches in their Convocation on Justice, Peace and the Integrity of Creation at Seoul, March 1950 devoted groups and plenary sessions to the Environmental Conservation problems and a new alliance for Nature has been established for future work in this connection. The world community has hopefully embarked on new modes of thinking and collective approach to mending what has been destroyed. The Sikh view at the Convocation was expressed by Puri (72).

I.T. Frolov, Editor-in-Chief of Communist Magazine, gave a call that "To successfully advance in solving global problems, we need to develop new methods of thinking, to elaborate *new moral and value criteria*, and no doubt, new patterns of behaviour."

Mankind is on the threshold of a new stage in its development. We should not only promote the expansion of its material, scientific and technical base, but what is more important, the

formation of new value and humanistic aspirations in human psychology since wisdom and humaneness are the eternal truths that make the basis of humanity. We need new social, moral, scientific and ecological concepts, which should be determined by new conditions in the life of mankind today and in the future". The publication Mankind 2000 (49) adequately expresses this aspect. Man is body, mind and soul and as such needs both science and religion, medication and meditation for an harmonious relationship with Nature (50, 54, 56).

The Sikh Faith

In contra-distinction to the ancient religions of the Indian subcontinent, Sikhism is historically new, though spatially widespread. Till recently it has not been found in records of History or Geography books, although Dr. Trump had translated into English some portions of Sikh Scriptures as early as 1870. It fell to the lot of M.A. Macauliffe to write in the Preface of his six volume history of the Sikh Religion (34) in 1909 that "I bring from the East what is practically an unknown religion."

It is more than 500 years old today and though a lot of work has been done both by Indian as well as English scholars, Dr. Gopal Singh, who has given the first translation of the whole of the Guru Granth Sahib writes in 1978 that "Sikhism is the most modern, and yet the most misunderstood of all the world religions (87). It is variously considered a branch of the *Bhakti* movement, or a synthesis of Mohammedan monotheism and the Hindu metaphysics".

A concensus of opinion of both Indian and foreign scholars (34, 86, 93) recorded in Encyclopaedia Britannica (1971, Vol. 20, p. 505) states that Sikhism is an Indian religion combining Islamic and Indian beliefs-founded in the late 15th century A.D. by Nanak, the first Guru (Teacher).....Again the Sikh religion is an amalgam of the Muslim faith and Hinduism, simply and clearly expressed in the Punjabi Language (p. 506).

There can be little doubt that the Sikh faith originated in the

15th century as a result of an encounter of the Semitic and the Indian religions on Indian soil. It nevertheless has its own distinct character. The invasion of the Mughals by way of the north-western route, to which Nanak was himself a witness, brought face to face with the two powerful conflicting cultures of the west in Islam and the east in the Hinduism. Arnold Toynbee (see 97) confirms that "The Indian and the Judaic religions are notoriously different in spirit; and where they have met, they have sometimes behaved like oil and vinegar. Their principal meeting ground has been India, where Islam has impinged upon Hinduism violently The Sikh religion might be described, not inaccurately as a vision of this Hindu-Muslim common ground". In the same spirit one can accept with qualification the statement on p. 205 of the Encyclopaedia Britannica that the main point of his (Nanak's) teachings was to emphasise the need of a reapproachment between Hinduism and Islam". He was no doubt a pacifist by Nature but Sikhism as a religion developed distinct features of its own independently of Hinduism and Islam.

The young Nanak early in life availed of an opportunity to study the two streams of religion in a formal education though a Pundit (Hindu) and a Maulvi (Islam) as well as informally by contacts, dialogues and discourses with religious political, social, cultural and moral leaders of the time (96). Nanak was a tireless traveller, a keen observer, a Naturalist, an enlightened scholar of human nature, an understandable, softly spoken and a mystically inclined young man. Even in his teens he had made many friends and admirers among the people of both the communities and his popularity, wisdom, piety and prophetic pronouncements always preceded his arrival to the place of his next stay during his travels.

He took as his life companion one Muslim-Mardana; who used to play rabab for him, and one Hindu-Bala. Even in the strife-ridden environment of the times Guru Nanak steered down a path not at loggerheads with any of the religions. On the other hand it respected them.

The Sikh faith recognises the Integrity of Creation in its wholeness, as a sound Theo-Eco-System of God-Nature-Man. *Awal Allah Noor Upahiya kudret ke Sabh bande.* From the Primal light in the beginning Allah created the Light.....The entire universe is created from the ONE LIGHT.....The Eternal light abides in all (Kabir, Adi Granth, p. 1349). The Mundka Upanishad states that—"The Brahman is the Radiant Light of all lights"....."The spirit of light above form, never born, within all, outside all, is in radiance above life and mind and beyond the Creator's Creator. From Him comes all life, and mind and the senses of all life. From Him comes spaces and light, air and fire and water and the earth that holds us all". In all human beings, as they are equal at birth there is no caste, creed or sect in the mother's womb. Human beings are born free and without any unnecessary bondage.

This is how Nanak fresh from his meditative audience with God proclaimed that there is no Hindu or Musalman. One is a product of five universal elements. "The body is *Kanchan Kaea* and mind is the light (soul of God, recognise your own root" (A.G 441).

From now on, he became a roving ambassador of Goodwill, Peace, Justice and Tranquillity propounding an ideal culture, in which all were children of one God, knit in universal brotherhood and living in loving mercy of the Father. This approach to life, learning and longing made Nanak a beloved of both the Hindus and the Muslims. He became to be known, as a popular verse describes him :

Nanak Shah Fakir
Hindu Ka Guru
Musalman Ka Pir

Even today, both S. Radhakrishnan (see 97) a devout Hindu and Dr. Zakar Husain (see 88) a devout Muslim : both past Presidents of India have repeated the verse with devotion and sincerity thereby showing a universal reverence to Nanak.

The mention of universal respect of Nanak could have

possibly motivated Raju in his book *Philosophical Tradition of India* (1971, p. 32) to say that Sikhism "Wanted to be a reconciliation of orthodox Hinduism and Islam. But Islam did not tolerate Sikhism, and so the latter became a part of what is called Hinduism, or is at least affiliated to it."

"Sikh religion", Bhai Jodh Singh (96) opines "was founded conjointly by the great teachers or *Gurus*: the line began with Guru Nanak (A.D. 1469-1538) and ended with Guru Gobind Singh (A.D. 1666-1708)," after which Guru Granth, also known as Adi Granth, was installed as *Shabad* (Word) *Guru*.

Sikhs in 1988 census were only 1.8% of the Indian population, against 83.5% Hindus and 10.7% Muslims. Even Christians are higher in numbers-2.6% of the population, though Buddhists have greatly declined in numbers.

Religion is man's mainstay and the most important life support system. One acts in the way one believes and being an integral part of the culture, it promotes the direction in which the societal pattern would establish itself. Religious attributes focus invariably upon the perceptions of the environment.

"Religion, broadly defined (12, Ehrlich *et al*, 1977, p. 80) would include all the belief systems that allow *Homo Sapiens* to achieve a sense of transcendence of self and a sense of the possession of a right and proper place in the universe and a right and proper way of life.".....In such a situation "political parties, labour unions, nation states, academic disciplines and the organised structure of the environment-ecology movement would have to be counted among our religious institutions."

Religion is a system of attitude, more definitely called Faith, has all along ruled the major events of Human history. Understanding and respect for other person's belief has been wanting in most fundamentalists. "Live and let live" has been rarely the practice, in spite of high ideals. Monarchs, Emperors, Dictators and even the Democrats at heart have been influenced by voice not as much of the mind but by the feelings of the heart.

Some would say that more wars were fought in the name of religion than polities. Ecology and Environment are witness of the Judeo Christian's crusaders, Muslims Jehads and holy wars. Even Buddhists and Jains, notably pacifists have had their own share of strife, and Gandhi's own violent calls based on Ahimsa brought an uncontrolled frenzy of hatred, bloodshed and death.

The holy wars were fought by the Sixth Master Guru Hargobind and the Tenth Master Guru Gobind Singh. The former instituted the order of *Miri Piri* worldly and spiritual kingship and constructed Akal Takht alongside the Har Mandir at Amritsar. The latter transferred the pacifist community of Saints and scholars to Soldiers and Saviors by administering elixir (*Amrit*) with a double edged sword (71). In fact, the basic ingredient in this is the Name of God, as in the preparation of the sweet liquid, five prayers are recited continuously, which supposedly energises the water and awakens when drunk, latent spiritual power or supplements physical-Biological power. The baptised Sikh keeps SGK's symbols and owes allegiance to the Guru Granth Sahib as living Guru and舍 his/her caste and becomes a member of the egalitarian classless-one class community, live as Saint-Soldier. The present Khalistan movement among Sikhs is for a demand of a homeland on Indian soil as an independent sovereign state.

In addition to Guru Granth Sahib, the Dasam Granth of the Tenth Master and some other literature of Bhai Gurdas are the sacred scriptures of the Sikhs. All these, however agree on the fundamental notion that :

The Sikh God is (*Nirankar*), Formless, Transcendent, *One*, *Ek*, *Ik*, *Ekankar* whole (*Sampooran*), Universal, Truth, Beauty (*Ik Oankar*), Universal, (*Sargun Nirgun Nirankar soon samadhi aap, Ashipadi : 21 Sukhmani... Beyond Time, Space and causation-limitation. self Illumined* (64, 66, 92).

He being one and the only one is also above Fear and Enmity. His creation of Man is likewise impregnated with Divine characteristics, as God lives in His own creation. The Kingdom of God is within you, is acceptable to the Sikh. The human body

is the Temple of God. (90, 92).

He is True in the Prime, True in the beginning of the ages, True He is now, and True He shall ever be. As He is everywhere Far, Near, Within, Without, He cannot be conceived by any pondering, silence, intellect, or symbolised by idol, animate or inanimate matter or spirit. He pervades in all, water, earth and interspace (A.G. 736).

There is his order through which creation comes into being. All are subject to his (Hukam) fiat and none is exempt. But He is Constant, a Giver. All sing His Praises through His (*Nam*) Life Force with faith, love, Respect, Constantly day and night, every breath. His Name is Word, Shabad,

Sound *Akhar* is the originator of the expending world with Ocean, Earth, Sky, Wind, myriads of forms and numbers of living plants, animals and human beings *Akhri Nam Akhri Salah, Akhri gian geet gun gah*. Through words Thy Name is uttered and through words the songs of Thy knowledge and hymns of Thy praises are sung. With words the destiny of man is written on his forehead.

As great is Thy creation so great is Thy Word. There is no place where your word is not. *Kudat Kawan kahan vichar*. How can an insignificant creature like myself express the vastness and wonder of Thy Creation ? Without understanding the Guru's Word the self is not made clean, nor the love of the Name implanted (AG. p. 594).

Guru Gobind Singh added a new dimension of Shakti to Godhead. He said in *Akal Ustat* (Dasam Granth)

Eternal God, Thou art our shield.
The dagger, knife, the sword we wield.
To us protection there is given
The Timeless, deathless Lord of Heaven.

He prayed to God-O, Almighty, grant us this boon,
Never should I hesitate from right action.

Global Environment

In the Global sense, regional or even local environment is defined as the "Sum total or the resultant of all external conditions which act upon organisms". According to EIS, Environment impact statement (30), it is variously defined in different contexts. For example the US Federal Environmental Protection Agency defines it as "The sum of all external conditions affecting the life, development and survival of an organism". The US Federal Interior defines it as "The sum total of all biological, chemical and physical factors to which organisms are exposed".

The National Resources Department considers environment to include, the air, water, and earth, sometimes called the biosphere !

I have used environment to include the Lithosphere, Atmosphere, Hydrosphere, Biosphere, Technosphere and Noosphere (in man) as a factor in totality (60, 76).

In the British White Paper Document-"This Common Inheritance"-Chris Patten spells out the Government's policy for the environment from the street corner to the stratosphere..... entailing 350 moves which the UK Government is making to protect the ozone layer, combat pollution, provide clean rivers, beaches and drinking water, save wild life and preserve the countryside". Five key areas are touched countering (i) Global warming by limiting emissions of carbon dioxide from power stations and motor vehicles in Transport. (ii) Preservation of the countryside by protection of hedgerows and controlling farm buildings. (iii) Greening of policy making (iv) Noise nuisance control (v) Aiding the threatened parts of British Heritage, including cathedrals.

Britain contributes only 3% of total global emissions and to reduce this would jeopardise the motor industry, which is to put in the market at least 6-7 million cars by the year 2000; and the Transport Ministry's 12 billion road development programme.

In last year's Blue print for Green economy a point was made of massive economic cost for repair of the damage to the environment. It is considered that if "polluting technology costs more, industrialists will switch to cleaner technology. To alter prices and costs, we can use environmental taxes, tradeable permits or other economic instruments to signal to industrialists, farmers and consumers that pollution does not pay, and pollution prevention does", notes Tom Burke in the Times of 26th Sept. 1980. The hidden hand behind the document is not the public opinion but industrial and electoral interest. The same concern runs the world over. So pollution is a by product of development, perhaps a necessary evil. But its affects do not respect national boundaries. Each country in Europe is affected by its neighbour's 'pollution' besides its own.

In Britain, especially in the South, 30 million people live within 90 minutes travelling time of Central London. It is the city planning and road traffic jams that increase the conditions of CO₂ emission and with it the environmental stress on plants (23) as well as on the human population. (50, 51).

Even in countries like India with comparatively little industrialisation the disruption of the environment has been found of a serious nature. Trace elements have been found in far fung places of industrial towns, in the lakes of Kashmir (24), in the sediments of Upper Ganges (80) and in the Hooghly estuary in the Bay of Bengal (15). Polluted rain (103) is not only the phenomenon of the environment of the Developed Western Countries but spread of acid rains has been found all over India (27). The WWF booklet on Acid Rain and Pollution covers all humid, moist areas, except the deserts in different continents.

The story of Bhopal disaster provides a far more impressive lesson for developing countries (100) than Charnobyl in the Developed world. Any leak in poisonous gasses in hot climates acts like an atomic bomb with fatal consequences for thousands for decades to come.

Earthquakes of Mexico, the United States, the Soviet Union, Hurricane storms on the U.S. East coast, Jamaican Islands, Japan and Britain and the flooding of Bangladesh and the Welsh Coast, in the last decade are all environmental disturbances that need careful consideration along with elemental factors.

The state of environment of cities (18, 110) in developed countries is no better quality-wise than in the developing world. Here the entire urban phenomenon seems either to be an extension of rural landscape or it seems to be forcing the rural characters in the city walls (5).

Of all the environmental elements that have shaped the development of civilisation, water (108, 112) is of the primary importance. Guru Nanak considers-(*Pehla pani jīv hai jit haria sabh koe*) that the first living being is water that has made everything green. Water on the planet is in fact life, which is an atom of carbon in a molecule of water. Environment therefore can be defined as living part of the Universe with creatures of all types, plants, insects, birds, animals and humans in terrestrial landscape, air and in water.

With the ever-increasing spreading of Urbanisations, rural landscape with water, forests and wildlife, has been gradually disappearing (36) even in the Himalayan mountains. Agro-industries, housing estates, Transport and Communication extensions have resulted in deforestation dereliction, loss of fertility, poisoning of land, water and air (79). The urban environment has become one large extensive jungle of concrete, road-network, with second or multistory of bridges, flyovers, skyscrapers with diminishing greenery and increasing noise, overcrowding and rising high waste mounds. This polluted environment begins to show diminishing quantities of O₂. (107) the vital element in the living landscape.

Human Environment

For local cultural or religious communities environment is where we live and love; work and worship, pray and play;

procreate and recreate; reflect and refresh It is refuge, a place of shelter from danger or trouble from person, beast or thing. It is the source of food not only for the Body, but for Mind and the Soul, leading to a state of Health, Happiness, Harmony and Holiness. The environment in totality is *Satycm. Shivam, Sundaram*, the embodiment of Truth, Beauty and Energy : An heaven on earth. That environment is the True wealth and not just the material things alone for man to enjoy for a while only on earth.

Of the material wealth, Guru Arjan explains on p. 179 of the Adi Granth that : "Excess of wealth satisfies not the Mind; Nor comes fulfilment from excessive indulgence with Beauty Man is involved with child and wife, taking them to be his; (But) these are mortal, and turn to heaps of ashes" Man, struggling to build a fortune is like a labourer conscripted on wages :

He builds another home with great travail.
He is like one who gets kingship in dream,
As he opens his eyes, it turns to naught".

It is clearly emphasised that man on earth is not the owner of what is the Environment, but he is at best only a guardian :

"Man in the world is like a keeper set to guard another's field.
The field (Environment) is the MASTER'S
The keeper bears hardships for this field.
From which to him no gain comes".

Then why man thinks himself to be the Master of his environment. The Guru explains that :

"God the King breeds in man (a bundle of) illusions
He creates *Maya* (illusion) as also the desire for it.
But God destroys as well as restores, is the message of the divine hymn.

It is not only the outer environment that is to be looked into, but man's outer body needs a spiritual vigil. The Guru says (A.G. p. 391). Man's body is a vessel of glass lying in

water;

In this frail thing is man engrossed in abounding pride;
 Puts away the fear of God, becoming reckless;
 Forgetting the Creator who is ever by his side.
 As breath leaves him, he is just a hand puff of dust.

Guru Nanak in Raga *Maru* (A.G. p. 1009) elaborates that :

“Man’s life is a poison-laden ship, tossed into the sea.
 Of the sea the shore is invisible
 Neither has it a rowing pole, nor is a pilot visible,
 In this terrible vast sea”.
 “By subduing desire the ocean of worldliness
 may be crossed (A.G. p. 419)
 “Because God is the Real Ship;
 The Holy Word is the Pilot.
 This carries man across the ocean of worldliness”.

In all this message there is and inbuilt reference to the Human’s moral and spiritual environment and human’s helplessness without God. More so the very nature with ego in man :

Egoism (I-ness) is man’s nature.
 Through egoism he performs actions.
 Egoism is the bondage that brings the Self
 Again and again to birth (and death cycle)”.

Guru Nanak (A.G. p. 419) adds that :

“The egoist is a stone, a rock (impervious to noble impulses.)
 Shame on his joyless existence
 He is like a stone, which will never soak in water”...
 “Egoism is a malignant malady
 Should God’s Grace come

Man may live the Preceptor “holy Word”. (A.G. p. 466)

Egoism or *Maya* is also created by God Himself, since there is none other than Him. There is no Satan involved here. Guru Nanak (A.G. p. 1010) states that :

"God has created also the poison of egoism
Thus the world is bound in selfish pursuit,
 The stupid, benighted egoist has forgotten
 that the wheel of transmigration is there."

Guru Ramdas (A.G. p., 13) adds : that

"Full of lust and violence is the world
 Through the Perceptor's touch alone may these be
 annulled."

Guru Arjan (A.G., p. 190) elaborates :

"Man, as an animal is involved
 In a vast variety of delicacies.
 Like a thief he is bound with the throngs of attachment.
 The body unsanctified
 Through Holy company is like a corpse....."
 "Tattered through innumerable births and deaths,
 This corpse is clad in fine vesture
 Is no better than a scarecrow
 causing fright in a field.
 All else (Bodies) may be put to some uses, (But)
 The Godless man is the worthless of all.

(For this reason) saith Nanak—that

"One on whom God's Grace falls
 Engages in meditation on God in Holy company"

Holy company is the congregation of saintly persons. This is the spiritual Environment in which one is reminded and urged to live. This helps one to subdue the Mind and curb the disease of *Maya, Homai* or the ego-centrism.

Guru Nanak (A.G., pp. 415-16) writes :

"Man's mind is like a wild elephant
 Wandering bewildered in the forest of *Maya delusion*
 Worldly (Material) objects drive him about.
Without the disciple of the Preceptor's Word
 The Mind finds no Rest.
 The Mind is thoughtless.....

How may it be restrained ?
 Unless it realises the Truth. Yama's (angel of death)
 Chastisement,
 It must endure.
 The Master is Himself the Liberator
 And Maker of union with Himself
 Destroyer of the torment of death
 And upholder of Right.”
 ... Though the mind is created of the five elements
 In it resides Holy action and Righteousness.
 (Ordinarily) The Mind is misbelieving
 Avaricious and thoughtless
 But devotion to God renders it lovely.
 By the Preceptor’s teaching the mind may find poise.
 By the Preceptor’s teaching it may realise
 Truth of the three worlds (secrets of the Universe).
 The Mind is also King, heroic in battle
 Should it turn towards God’s Name
 It is rendered Fearless
 It has the power to defeat and kill
 The five evils and subdue them.
 By consuming ego-ism, it may imprison them
 On entering Divine Portal and Mansion,
 The Mind is purified.
 By turning to God, one is attuned to Divine Music
 The Mind gets drunk with the Divine Elixir.”

From the above deliberations it follows that Sikh faith recognises environment in diversity and plurality. There is thus the variety of material, political, economic, socio-psychological, moral, spiritual environments interlinked, interlocked, interdependent within the Macro or the universal environment. In human populations with multiplicity of faiths, beliefs, creeds and sects worshipping a variety of gods and goddesses, there is a tremendous confusion. The confusion is further confounded with a high percentage of illiteracy and an endless number of

languages, dialects and scripts to decipher. The priestly class both in the Hindus and Muslims took advantage of this and made themselves the champions and agents of God.

Environment at the time of Guru Nanak's advent

Guru Nanak lived at a time when in India both the Hindus as well as the invading Muslims in authority or power, politically or religiously, had become totally selfish, corrupt, hypocrites, cheats, cruel, merciless and false. They were quick to show their piety and put on the garbs of holy men. Muslims pretended to be Haji's (those who have been to Mecca) or Qazis (who practise justice). Hindus put on garbs of Yogis, Sanyasis, Sadhus and Saints. The whole Environment was polluted with untruth and impurity and common people were deceived and cheated and ruthlessly treated. From Guru Nanak's *Asa di Var* (Morning Prayer hymns) some random examples are given of such an environment : Of the Hindus and Muslim cheats he says (A.G., p. 471) :

“Those who slaughter human beings perform Namaz.
Those wielding the butcher's knife wear the sacred thread.
Brahmans blow the conch shell in their homes
They are as much the slaves of appetites
As are their employers.
Evil is the capital, Evil the commerce.
Of such evil doings is derived their living
Decency and Righteousness has vanished
Nanak, Falsehood is all pervasive.”

He in his travels of over 40 years to all corners of the country and the neighbouring Southeast and Northwest, entered into dialogue with people of all faiths and beliefs. As a social reformer he did not stop at economics, sociology, literature or poetry but entered into the moral and spiritual concerns of the people. He showed at Haridoar that throwing Ganges water to the dead ancestors is mockery; if water he was throwing to his fields in Kartar reaches nowhere. He told the feudal Lord Malik Bhago that his delicious rich food is dripping blood of the poor

as compared to rough hard earned food of a carpenter Lalo. He transformed Sajjan Thug and Quada Rakash from their evil pursuits for living. He made the people of Mecca realise that God is in all directions and to the Pundits at Jagan Nath Puri that the whole universe is engaged in *Arti* (Prayer) of the Creator in the wide open. To *Muslims* he preached- (A.G., p. 140-41) :

“Make thy mosque of Love and Humanity;
The prayer carpet of Sincerity.
The KORAN of honest and approved endeavour,
Thy circumcision of modesty.

Thy Ramdan fast of noble conduct.
Thus shalt thou be a True Muslim.”

“His first action is to Love the way of the Holy;
Second to shed off his heart’s filth
To the God’s Will he must submit
Obey God and efface his self.
Such a one shall be a blessing for all,
And be truly reckoned a Muslim.”

To the *Yogi*, Guru Nanak says (A.G., p. 730) :

“Yoga lies not in the begging pouch
Or in carrying a staff.
Nor in smearing the limbs with ashes
Or in blowing the horn.....
To live immaculate admist the impurities of the world
This is the True Yoga-Practice.”

Again (p. 1189) addressing the Yogi-he says

“Yoga does not come this way
Thou hast cast off clothing.
Destroy the Five Evils,
Keep your mind in poise.
That is true basis of Yoga-practise... ...
Thou spiritually blind one
Do not think that rubbing of ashes over the body
Would drive away egoism.”

To the *Sanyasi* the Guru says (A.G., p. 1013) :

“The true sanyasi serves God
 And gives up egoism.
 He seeks not things of this world (Materials).
 And takes whatever comes without hankering after it.
 He neither wags his tongue in loose talk,
 Nor speaks from egoism.
 He hoards the wealth of forgiveness
 And burns away evil passions,
 In the fire of God-contemplation.”
 “...One who claims to be a *saint*
 And goes about begging
 Touch not his feet.
 He whose livelihood is earned through work
 And part given away in charity
 Such a one sayeth Nanak-
 Truly knows the way to God.” (A.G., p. 1245).

The Sikh faith emphasises on three things as a way of life (i) earning livelihood by honest work, (ii) sharing with others the fruits of work, and (iii) remembering all the time God’s Name for contentment. Thus one can live like a *Sanyasi* (recluse), while engaged in the worldly pursuits of a Family man in *Grahhsh ashram*. Guru Nanak says (A.G., p. 1013)

Blessed is everyone
 Householder, *Sanyasi or Yogi*
 Who loves God’s Holy Feet
 The True Sanyasi is above Hope and despair
 His Mind is fixed on God alone.
 His Mind content only on tasting
 Joy in God, and being Centred on Truth.

Thus, the Restlessness of Mind is stilled. Why is such a way of life recommended for everyone, belonging to any religion, caste, creed or faith, is for the fact that in the words of the Guru (A.G., p. 222)

The quest of pleasures brings nothing but torment abounding, Man thus makes a necklace of evil desire ! To the seeker of false delights, Guru reminds that "Liberation comes only through love of God". Because "God created All and watches, All deeds. The Fire of the wordly desire is quenched only by the Word of God.

"The Rest is All Illusion-Pure and simple,
Let man turn towards God.
Enshrine Him in His heart :
'Chant the Divine WORD.
Utter God's praises' for life fulfilment."

Although, Guru Nanak gives the above a universal remedy for ills of all people of the world-Hindus and Muslims alike, but he does not enter into any conflict with anyone and says (A.G., p. 1171) :

"Let the Brahmin worship *saligram* (Stone to represent Vishnu)
And Tulsi beads
I launch my boat with meditation
On *Rama* (God) for my support.

Sri Guru Granth Sahib

Although, Environmental concerns are voiced in all the Sikh scriptures, they form a well defined conspicuous part of the Adi Granth. It is therefore, necessary to give some features of the Granth.

Guru Granth Sahib is not merely a Holy Book, like Dasam Granth and other scriptural writings but it is the Eternal Guru of the Sikhs. Compiled by Guru Arjan, the fifth Guru on the 14th August, 1604 as Adi Granth and installed in the Har Mandir at Amritsar, it was later consecrated to the status of the Divine living Guru by the 10th Master, Guru Gobind Singh on the 4th October 1708. It is the Word, Voice of *Shabad Guru*.

It contains 5894 Shabads or hymns and 9,100,224 words written in the Gurmukhi (Punjabi) script. Trumpp calls it "the

treasury of the old Hinduic dialects and a source book for compiling a socio-cultural history of North India of Medieval time. Its idioms and proverbs have become the stock-in-trade of every Punjabi for all occasions, no matter what his religion, profession or place of residence." (see 87, p. XIX).

The Granth also called *Pothi* (book) by Guru Arjan was written in the Punjab. The Public Relations Office proudly proclaims that Punjab is—where India began on the banks of the mighty Indus—where the five rivers of today and the Sarawati and Drishavati of the Vedas and the Mahabharat made it the *Sapt Sindhu*. That's where Indian culture was born at Harappa grew through the ages of Vyas and Vashisht, the Kaurvas and the Pandavs into the historical influence of Buddhism and Alexander and Bards of Heer and Ranjha, Sohni and Mahiwal In a celebration of Chivalry and romance as well as tears and laughter—the Ragis, Devotional singers sang the praise of the Almighty in song and *Shabad* in powerful tradition of love and war. It remained the motivating force in Life.

The past replete with embodiments of *Karam* and *Sewa* from the soul flowed unchecked in the present. Where Farid, Nanik, Ranjit Singh, Lajpat Rai, Bhagat Singh and the martyrs of the Jalianwala Bagh lived and died in honour of the land.

Here, as always on the farm and battle front-in enterprise and adventure, the spirit of the Punjab is ever visible.

It is this socio-cultural heritage of the Indian people which the Granth holds hidden in its pages. It is an epitome of literature of life's love and labour.

As *Pothi* (book) the Granth is the abode of the Lord (Parmeshwar). God is present as *Sati Nam*, the True Spirit alive to guide, inspire and spiritualise the deeds of the past and present, future and future of the future. There is in it a note and string of Eternity.

The Granth means a big book to some, has 1430 pages enlivened with Divine poetical compositions of 40 Indian authors,

among which 6 Gurus, 7 Muslims and 26 Hindu Saints have given their revelations a light in the Divine Spirit, in its pages. Except for the first 13 pages the *Shabads* or hymns are set to music of 31 Ragas or tunes beginning with Sri Rag on page 14. The compositions are interspersed in the body of the Granth not by subject or by the author, but by arrangement under the musical tunes. Being the personal experience of the 40 author's belonging to different faiths and geography, the similarity of the theme runs throughout the Granth which some scholars have viewed as repetitions.

The 6 Gurus contributed 1205 pages, 84% of the Granth; whereas 7 Muslims 167 pages, 11.7% and 26 Hindus 57 pages, 4%. It is therefore universal and democratic, a spiritual Parliament of All Faiths of the Indo-Iranian region (28).

The number of hymns attributed to different authors are as under :-

Guru Nanak 974; Guru Angad 62; Guru Amar Das 907; Guru Ramdas 67%; Guru Arjan (the editor of the Granth) 2218 and Guru Teg Bahadur 112.

Of the Saints, Kabir contributed 541; Farid 134; Nam deo 60; Ravidas 41; Trilochan 4; Beni 4; Dhanna 4; Jai Dev 2; Bhikhan 2; Sain; Pipa; Sadna; Ramanand and Parmanand one each; Soordas 2; Sunder 1; Mardana 3; Sata 5; Bhats (bards) contributed collectively 128 hymns.

Divinely inspired, as noted above, the authors belonged to different parts of India, so naturally they used different languages and dialects, idioms, folk lore, proverbs but the message is the uniform one of love, worship of the human soul of the over soul. The language, though called Punjabi, is a mixture of Western Hindi, Parakrit, Braj, Punjabi and the current vocabulary of Persian and Arabic.

Sikh scholars feel that the language of the Guru Granth has already become archaic for the present day readers, especially for those spread over Western countries away from the land of their

origin. Dr. Gopal Singh laments (87, p. xx) that until recently, the words of the Guru Granth even in print cou'd not be separated one from the other, so that its correct reading was restricted to the select few". It is, therefore, difficult to be definite even for the basic tenets, let alone of the meaning of the whole *Shabad*. The three Sikh scholars who have given us English translations of the whole of the Granth (Namely, Dr. Gopal Singh; Mr. Manmohan Singh and Professor Gurbachan Singh Talib) differ in their approaches. The Punjabi translation by Professor Teja Singh and his associates and English translations of selected poems by Tarlochan Singh and associates published by UNESCO (97) likewise show diversity in meanings, in letter and spirit of the original.

All these, however, have approached from purely religious or theological context in Western scholarly style. Very little has been attempted from a scientific, let alone Environmental, point of view. It is, therefore, not surprising that some of the views advanced in this paper may seem complex to some, as they come from a Scientist-Ecologist-Biologist.

Dr. Gopal Singh's translation of the Guru Granth Sahib has been commented upon by numerous Western and Eastern Scholars. Of these Mrs Pearl S. Buck N.L. has this to say (see 78, p. XIX-XV)-"Shri Guru Granth Sahib is a source book, an expression of man's loneliness, his aspirations, his longings, his cry to God and his hunger for communication with that Being". Speaking about the ten Gurus, she says ".....They speak for the human heart and the searching mind.....*One wonders what might have been produced if the ten founders of the Sikh religion had been acquainted with the findings of modern science.* Where would their quest for knowledge have led them had science been their means instead of religion ? Perhaps in the same direction, for the most important revelation now being made by scientists, is that their knowledge, as it opens one door after another to the many universes in external existence, affirms the essential unity of science and religion."

Guru Nanak was contemporary of Copernicus the Scientist, Kabir, the Indian mystic and Luther the Christian Reformer and seems to have had access to scientific literature of the times through his travels in the Middle East where treatise in Persian and Arabic had existed before 1500 A.D.

Guru Nanak's writings reveal a wealth of scientific as well as mystic and reformationist knowledge, which I have touched upon from time to time, (59, 70, 71, 73), but research into discovering the Unity of science and religion in the Guru Granth Sahib is being actively pursued.

Referring back to Pearl S. Buck, she emphasised that the Guru Granth, "Speaks to me of life and death; of time and eternity; of the temporal human body and its need; of the mystic human soul and its longing to be fulfilled; of God and the *indissoluble bond between them.*"

Singh Sahib Harbhajan Singh Yogi (89) defines that "*Granth* (*gra, knot+un*, ultimate + *Naath*, owner, master, God) is that which creates the ultimate knot with God," which Pearl Buck seems to imply. Both *Siri* and *Guru*, of course, mean *LIGHT*, the entire Light. *Guru* is the one who leads from darkness to Light, expressed in the famous hymn from the Brihad-Aranyaka Upanishad (1.3.28)

From delusion lead me to Truth
 From darkness lead me to light
 From death lead me to Immortality

All the three objectives, Truth, Light and Immortality are considered in the Adi Granth. In fact, they are the essential content of the *Mool Mantra*, the beginning piece.

The Upanishads were composed in 800-400 BC by 112 authors in Sanskrit language as different treatise by each author. The Guru Granth can be interpreted to present a continuity of Indian spirituality through the ages. It is the final version and no alterations, additions can now be done to it.

Sahib and Singh Sahib express means the totality of the here

and now and is not an expression of respect alone.

This totality of Light Here and Now is well expressed in Guru Arjan's words on p. 103- O Lord Thy Word is Nectar-Sweet. Hearing it, I attain to the highest state of Bliss. The Fire within me is quenched and my mind is cooled on seeing the sight of the True Guru.....The Earth (of the body) and the ocean (of the mind) are filled to over-flowing with the Nectar of the Lord's Name..... All are satiated by Him (with His Grace) *In an instant, woods and glades and the three worlds bloom !*

Hearing and seeing mentioned in the above hymn refer to the audio-visual nature of the Experience. Light outside stimulates the light inside the Mind or the Soul of the human. The music outside joins with the Music inside, the unstruck melody in the human body. It is the echo of the music of the Spheres. The whole statement is as much scientific as Mystic.

Guru Nanak (A.G., p. 350) says *Jeta sabda-surati dhun teti jeta roop kaiya teri*-All sounds, all Meditations, absorptions in Divine manifestations Emanate from Thee. All that strikes the vision is Thy Form. Thine are the senses enjoying all creation. God Himself is the Taste and He Himself is the enjoyer of the Fragrance.

Referring to the Soul in the human body, Guru Arjan (A.G., p. 868) has to say this as-wonderful is the Tale of the Self. It is made in the image of the Supreme.

But Ravidas (A.G., p. 659) describes in the body of the human (*Jal ki bhit pawan ka thamba*) that the walls are of water, The pillars of air, The mortar of a drop of blood. Its skeleton is of bone, flesh and nerves. In this house lives the poor bird of life (Soul in the body). Man, nothing here is mine or thine. This life is like the bird's brief perch on the trees.

Guru Nanak adds (A.G., p. 1187) Mankind is crow-like, forgetful of Truth. Forgetting the Truth it swoops down on crumbs.....This life is a house of sand built on a whirlpool. Like a bubble just visible in torrential rain. In substance a drop,

moulded in the form on God's wheel. Know all life is slave to the Real.

Mool Mantra

The very first Word of the Guru Granth is ONE-signifying both numerically one as well as one Infinity-The Wholeness. It is unity. The root is one that expands upwards and downwards into infinity of organism still remaining one. Different scholars have interpreted this basic essence of the Essence of the Sikh philosophy and thought, differently.

The foremost is of the meaning of *Mool Mantra*-the Revelation already mentioned that Nanak had at the age of 27 and after which experience he said that *Na Koi Hindu, Na Musalman*-There is no Hindu, no Muslim. One is a human made up of five elements.

This *Mool Mantra* of Guru Nanak is the essence of the Sikh faith. It is repeated as Prologue to compositions of 40 different authors on 31 different Ragas 567 times in the 1430 pages of the Granth. *Mool* means root. It is also mentioned as *Bij Mantra* meaning seed mantra. To an ecologist, there is a difference between Root and Seed.

Dr. Gopal Singh translates the *Mool Mantra* *Ik Onkar Sat Nam Karta Purkh Nir Bahu Nir Vair Akal Moorat Ajoone Saibhang Gur Prasad* as :- "By the Grace of the One Supreme Being. The Eternal, the All Pervading Purusha. The Creator, without fear, without Hate, The Being beyond Time, Not Incarnated, Self Existent, The Enlightener".

Trilochan Singh and others (97) in the UNESCO publication have translated *Mool Mantra* are as under :

There is one God,
Eternal Truth is His Name;
Maker of all things,
Fearing nothing and of enmity with nothing,
Timeless is His image;
Not begotten, being of His own Being.

By the Grace of the Guru, made known to men.

Both these approaches bring us into contact with the exposition in the Upanishads (6t). God is represented as OM. The Mandukya Upanishad states :

OM-the Eternal Word is all. What was, what is and what shall be, and what is in Eternity. All is OM.....The Brahman is All and Atman is Brahman. This Brahman is the Eternal Word OM. Its three sounds A,U,M are the first three states of consciousness and these three states are the three sounds.In Word OM as one sound is the fourth state of Supereme consciousness.

God is sound (4, 4) and Silence..... By sound we go to Silence (M. U p. 6.22 and 6.23). The Kaushitaki Upanishad (3.8) elaborates, it is not the speach which we should know; we should know the Speaker.

Maitri Upanishad (4.4) states that "OM is the Glory of Brahman. It is, therefore, by vision, by harmony and contemplation that Brahman is obtained... ..."

Elaborating on OM, Chandogya Upanishad refers to the Gayatri (2.23.2) mantra. "Prajapati, the Creator of all, rested in life giving meditation over the worlds of his creation; and from them came the three Vedas. He rested in meditation and from those came the three sounds : *Bhur, Bhuvas, Svar*-earth, air and sky. From the three sounds came the sound OM. Even as all leaves come from a stem, all words come from the sound OM. OM is the whole universe. OM is in Truth the Whole Universe".

OM is present in the human body too. "In the centre of the castle of Brahman, our own body, there is a small shrine in the form of lotus flower and within can be found a small space..... The little space within the heart is as great as this vast Universe. The Heavens and the Earths are there, and the sun and the moon, and the stars, fire and lightning and wind are there; and all that now is and all that is not; for the whole universe is in HIM and He dwells within our Heart..... This is the real castle of

Brahman wherein dwells all the Love of the Universe. It is Atman, pure spirit, beyond sorrow, old age and death, beyond evil and hunger and thirst. It is Atman whose love is Truth, whose thoughts are Truth".....(Ch. Up. 8.1)

The above translation into English of the Mool Mantra show a strong influence on the Sikh faith of the Hindu thought. In the pages of the Guru Granth such thoughts echo quite frequently.

Guru Nanak (A.G., 139) makes it clear that God made the union between the body (kaiya) and the soul (swan, Hans). He also thereby brought about separation of the soul from Himself. But the fool is absorbed in pleasures which all result in suffering. Sikh faith distinguishes between the Sikh as *Gurmukh* and *Manmukh*. The former is Guru-God-centred and acts on *Gurmat* (teachings of the Guru). The latter is self or ego-centric and is *Man matia* or self centred, neglecting Guru's teachings. The *Manmukh* is referred to as Fool or the unfortunate one, who suffers sorrow by his actions.

This suffering of man is common to other creatures, as Guru says (A.G. 225) that the bumble bee, the moth, the elephant, the fish and the stag all are destroyed by their own actions. Absorbed in desire, man sees not the essence. The philanderer thinks of gratifying his lust. All kinds of evil persons are ruined by their violence.

Guru Granth Sahib is taken by different people differently. It is the exposition of Universal Religion A Multifaith it is! The Granth is a Parliament of faiths. It is the treatise of Spiritual Socialism, where both in spirit as well as in letter the emphasis is on equality. The preaching therein is for the establishment of an egalitarian society, transcending caste, creed, colour, race or religion.

India has for the last 5,000 years been ridden by caste system. From purely functional division it became an inheritance dogma. The shudra or the low caste are in actual practice the untouchables, condemned to live a life of degradation, misery,

poverty, generation after generation. It is interpreted by the high class Brahmin as a curse for the actions of the past lives. The other two castes, the kshatriyas are defenders and the Vaishas, the business people. All the three castes have to serve the Brahmin class with their God-given vocations.

The Governor N.V. Gadgil in the Introduction to Dr. Gopal Singh's translation (87, p. XIII) makes a pointed reference to the caste system and says that "The Guru united the four Varnas into one. The *savarnas* and *avaranas* all repeat His name in *Satsang*. The six schools of philosophy are like six seasons-The way of the Guru is to look at the one sun that causes them. Doing away with the 12 sects of Yogis, he repairs to the Guru's sangat. He sings the indestructible and unfathomable word not contained in the Vedas and the books. The *Gursikhs* fall at each other's feet. That is the sign by which they are known. Living in *Maya* they are unaffected by it. Effacing their self they repeat the Name. They are now beyond blessings and curses".....God is sweet like the ripe dates, like a rivulet of honey.....He is for everyone. There is no high or low in his presence.

Guru Gobind Singh after giving baptism of *pahul* (double edged dagger) made the split personality of India into one single whole. There is One God, one human being, one caste, one religion, one vocation, as children of God we are all one. "In the Sikh faith is thus a combination of the philosophy of Surrender and the philosophy of the Sword," writes Gadgil.

Referring to the teachings, Dr. Gopal Singh (*ibid*) writes that "Prophet Mohammed's contribution to the religious idea was more on the political-social plane than on the spiritual or philosophical. And yet such was the powerful impact of his teachings on the half-nomadic people, divided into sect and clan, that not long after his death, their camp had swelled to formidable proportions and they over-ran not only North Africa, but also large parts of Europe and Asia". But Sikhs' social reformation of the Indian society had not cut much ice, in spite of sacrifices by Sikh Gurus and the Sikh people. Gandhi spent his life in

ridding the society of caste system and today the present Prime Minister V.P. Singh is getting to grips with this demon of destruction. The caste system is a million times worse than the S. African apartheid and yet it flourishes in India, whereas the S. African Government has relinquished it.

HAR, HAR, the Evergreen God

Har, means Green and is associated with Evergreen forests, large trees, forests, birds, beasts, water and fertility : *Harjas*, *Har ras* are other words indicating juicy liquids, *Har Nam* signifies the Name of God *Har*. The association of green with God seems evident for India for the reason that ecologically India is a Tropical country where the original vegetation is one or the other type of evergreen forest (12, 76) with green foliage and shade. Disforestation, burning and other uses of land have, however, greatly destroyed the greenery, eroded the Indian landscape throughout the length and breadth of the country that is interspersed with desert semidesert, dry scrub or grasslands.

India has 45,000 species of plants of which vascular flora is 15,000 species. India has a rich fauna too.

There are 50,000 spp. of Insects.

4,000	Molluscs
6,500	other Invertebrates
2,000	Fish
140	Amphibians
420	Reptiles
1,200	Birds
340	Mammals

More than 65,000 species of animals are recorded in India.

Along with the forest destruction a large number of species have become extinct or at the verge of becoming endangered. Plantations of quick growing Eucalypts, casuarina and other species have further destroyed the habitats of indigenous plants and animals. When greenery is destroyed, with it other life suffers.

The Indian climate is characterised by a well pronounced

summer monsoon, with a distinct period of a long dry, with rainy hot summer, a short spring, autumn and winter. Rainy season is wellwarm and hot. Instead of temperature which in the bulk of the country, except the Himalayas, is fairly uniform, the controlling factor for vegetation development is water.

The two streams of Monsoon from the Indian Ocean and the Bay of Bengal, give a floristic pattern of Indian forests distinct from other Tropical regions. The Tropical vegetation with Wet Evergreen, semi-evergreen, Moist deciduous, dry deciduous, Thora dorests and desert are distinguished on the relationship between the rainfall and drought conditions (76).

Drought and floods are caused by abnormalities in the pattern of monsoon over almost all the parts of the country. There are periods of very dry, hot summers and long duration of flood spells and drought spells.

There are six seasons of particular significance, of which *Basant* or Spring in the month of March-April and *Sawan* in the month of July-August are most conspicuous and determine the socio-cultural and religious philosophical patterns and practise of the people of diverse faiths, castes, creeds, means and avocations.

On the whole, India is a country of villages, large and small, spread all over (3). Agriculture or other occupations concerned with land provide sustenance for 70-75% of the population. The bulk of the land is rain fed. The canal or well irrigation is also dependent upon the rainfall. Water is the life of All life and the onset of rain is eagerly awaited. Prayers, Yajnas are held for rain.

Sawan or the rainy season is the period of production and *Basant* or the Spring is the period of sprouting and flowering of plants. Both are distinct agricultural seasons. Wheat, oil seed crops and some legumes are the produce of the Basant and Rice of the Sawan rainy season, respectively. Leafing, flowering and fruiting of trees also occur predominantly in these two seasons. These are also major breeding seasons for birds and beasts.

Trees for shade, greenery, flower, fruit, equable climate, water condensation, conservation are most valuable for population in hot dry tropical climate. They provide food for animals and resting and breeding place for bird life. In monsoons, wetlands become feasting grounds for most creatures and bio-aesthetic landscapes for people.

Perhaps impressed by the natural green landscape, Guru Nanak (A.G. 152) sang-(*Tarwar pankhi bahu nisi wasa*)-This world is like a tree. On it, rest at night, vast number of birds. These birds live through pleasure and suffering. And gripped by *Maya*'s stupor in the end die. As night passes and day dawns they again fly skywards, wandering in all directions as their actions impel them.

Trees are almost always planted along wells and ponds. These are usually the resting places of Saints and Sadhus or weary travellers day or night. Temples are also built to provide shelter, water for body's thirst and God's Name, for spiritual food in tree groves.

Nature as Matter and Spirit-landscape.

Guru Nanak was a great reveller of Nature, finding delight, ecstasy, peace, and heavenly bliss in forest areas. In the company of trees under cool starry nights, he must be meditating on God. In some such situation he seems to have composed the hymn (A.G., p. 1274) in *Raga Malhar*, the tune of the Monsoon season *Reekhin birkheen udon bhukha pavan Nam subhaee*-I fly among trees and plants, hungry and insatiate. Water of the Name, alone fill me. My eyes are petrified, my tongue is wailing. His sight alone extinguishes my thirst. This is a yearning that knows no bounds.

In *Raga Wadhans* (A.G., p. 537) He sings with the beauty of the Nature-'*Morin run-jhun laiya bhaine Savin aiya*' Sister, Savan has come. The peacocks' enchanting notes are heard. The stabbing looks of the Lord spouse have captivated my passionate heart. For a sight of Thee, would I cut myself to pieces.

Guru Nanak was not only an admirer of Nature but a passionate Lover of all the Creation of God. To him the human soul is a bridge and the universal or the Lord the Spouse. Other authors of the Granth Sahib have likewise followed this pattern of thinking, as Grahasthashram or Family life is the highest sphere of life. They were not only mystics and philosopher but ardent lovers.

Guru Nanak in *Raga Gauri* (A.G., p. 157) says-To find Lord, would I be a Doe living in the forest, browsing among herbs and roots.....To find in gesture spontaneous the Lord, To have sight of His beauty Infinite, *would I be a Kokila (bird) on the Mango voicing Him forth in notes unforced.*

Kokila bird is almost always associated with the Mango tree. It starts chirping out a sweet melodious sorrowful tune with the beginning of the mango blossom. It sits mostly hidden in the thick branches of the large, spreading tree with deep green large foliage. This chirping is the mating call and no one escapes the soul-stirring music in it.

Guru Nanak is lost in thoughts of God-Spouse relationship in such a lovely season, in one with Nature. He must have visualised His Transcendent Lord as Beauty-*Tere banke loin dant risala* Lovely Thy eyes and sweet pearly teeth, Beautiful profile and long tresses. Thy limbs moulded in Gold.....Elegant Thy gait, beautiful, sweet Thy words-*Liquid Thy youth; Sweet Thy accents as Kokila chirping.* Measured Thy gaits like elephant self decked. Liquid Thy youth, The Bridge intoxicated with love of the Divine Lord steps about like Ganga-waves. Submits Nanak-Elegant is thy gait and sweet thy accents.

This is clearly a description of an evergreen forest with mango trees on which Kokila birds chirping and the elephants roaming and rivers flowing, creating a heavenly bliss on earth.

Another author of the Granth-Namdev, belonging supposedly to a lower caste lived in the dry desert area of the country. In one of his hymns (A G., p. 693), He sings-Dear to me is the Lord

as water to dry Marwar (Rajasthan) As creeper to the hungry camel, the night cry to the deer. Lovely is Thy Name.....
 Lovely Thy Form, Thy Features.....Dear to me is the Lord, as the rain-cloud to the earth. Fragrance of flower to the humming bee, *mango to the Kokila*. As the sun to the chakwi and Mansrowar (Himalayan lake) to the swan. As spouse to the young wife, As milk to the babe, as the drop to the chatrik as water to the fish.

Ravidas, cobbler by profession was an inhabitant of a semi-deciduous tract. He gives his description of the Lord (A.G., p. 486) suited to his own habitat, thus : *Tum chandan ham irand bapura Sangi tunhare basa* You, the fragrant sandalwood (*Sabtaluun album*), we the poor castor bush (*Ricinus communis*), Growing side by side. In your company, ever enriched by your fragrance have I grown from a lowly bush to a prized tree.....

You silk of pale white hue, I seek the holy company as the bee honey. Lowly my caste, my tribe, my birth, saith Ravidas the cobbler, my life is wasted without serving the Lord. Others-Gurus and Saints have also expressed similar responses to Nature and Natural phenomenon.

Suffice it is to say, that the Sikh perception of Nature, is from the physical, biological to spiritual, covering the whole gamut of environment in its different aspects, segments and seasons. The above examples cover an evergreen raining forest; a desert dry grassy scrub and the semi-deciduous jungle. But in these descriptions the emphasis of mango tree and Kokila bird is significant.

Mango in the Landscape is the King of Tropical Fruits.

Of all the Tropical evergreen fruit-trees, Mango of the family Anacardiaceae occupies a significant place in the heart and soul of Indians. It is a large tree 50-60ft tall and spreading. *Mangifera indica* plantations and wild plants occupy an area of 2.2 million acres out of a total 3.16 million acres of orchards giving an annual production of more than 6 million tons of fruits. It spread

eastwards out of India, perhaps as early as 400-500 BC in the hands of Buddhist monks who also took the Bodhi tree *Ficus bengalensis* and the other *F. religiosa* both large spreading evergreen trees, with thick glossy large foliage.

Westwards, movement was through hands of the Portuguese travellers as late as the 16th Century AD. Now grafted Mango is a commercial crop over much of South East Asia-the Philippines, Indonesia, Java, Thailand, Burma, Malaya, Ceylon and is also popular in Egypt, West, Southeast and South Africa, Hawaii and the West Indies. It is developed in Brazil, Florida, Israel, Tropical Australia, Mexico (94, 95) and seems to enjoy large plantations for fruits.

In India, mango grows almost all over the country, also in Pakistan and Bangladesh over a wide range of soils, temperature and rainfall conditions. Minimum temperatures between 34°-36°F and maximum of 72°-80°F, and annual rainfall of 10π to 100π, with reasonable amount of humidity is suitable, for erect, robust, luxuriant, with spreading branches, growth, Flowering and fruiting is luxuriant, generally at its best in the early warm weather of April, that coincides with spring, or *Basant* or early summer. There is a profuse flowering and the sound of the Koel 'Kokila' bird heralds the flowering. Mango shoots grow with periodic flushes of 2-5 in a season, or year long growth in the southern region. Fruiting is profuse, sometimes subject to alternate or irregular bearing. Mango is the king of Tropical fruits. *Amb* fills the mouth with taste and satisfaction. Shaped like heart and woman's breast mango-*Amb* fruit stirs imagination of lovers and Saints, alike.

Mango-steen (*Garcinia Mangostana*) of the Guttiferae is also a beautiful delicious fruit tree of tropical S.E. Asia. It reaches a height of upto 35 feet and has thick dark green glossy leaves 6-10 inches long. Flowers are large and fruits are about 3π in diameter. It is juicy delicate in texture of delightful taste.

Another berry called *Ber* (*Zizyphus jujuba*) is a delicious fruit of a large profuse fruiting shrub or a middle sized tree, growing

all over India. Ber is of special interest to Sikhs. Along a small pool of water with miraculous properties a leper was cured and this tree is now growing almost 400 years old along the tank in Har Mandir, at Amritsar.

Since ancient times, mango has been an important part of food for millions of people in the Indian subcontinent. It is distributed in gregarious patches from sea level to 4,000 ft in the mountain valleys.

Besides its association with the Kokila bird, rainy season, shade and wide distribution the fruit is eaten as raw or made into chutney and pickles and used in culinary preparations.

From the ripe ones are made juices, squashes, jams, jellies and preserves as well as eaten in dozens in the season.

Unripe but mature fruits are also sliced, sun dried and seasoned with turmeric to produce *Amchur*, which may be ground to powder used in soups and other curry preparations.

The ripe fruit has 60-75% edible portion. It contains 84% water; 15% (10-20) sugar; 0.5% Protein, and A, B, C Vitamins. After eating Mango fruit, diluted milk is taken usually as fulfilment.

Seeds contain 70% carbohydrates, 10% fat, 6% protein, and are made into flour for human consumption in times of scarcity. Leaves are fed to cattle in fodder shortages.

Urine of cattle fed on mango leaves is used as a yellow dye. Timber is used in many ways and is valuable for construction of boats and dug-outs.

Leaves, bark, fruits and gum resin are used in Ayurvedic medicine. Juice made from unripe roasted mango is used to save from dehydration in hot summers.

Flowering takes place in Northern India over a period of towards the end of January to March and in Southern parts in June to August. Tiny flowers 5-8 mm in diameter are arranged in widely hunched terminal panicles 10-60 cm in length with 1,000-

6000 flowers. They are sweet scented and usually open in early morning 8-12a.m. when stigmas become immediately receptive. The flower disc secretes Nectar, attracting insects and flies for pollination. Fruit drop occurs at all stages and many kinds of birds, especially parrots peck in swarms. Large Mango trees provide habitats for bird nests and honey bee combs.

Mango has been grown in India for well over 4000 years; Lord Buddha was presented with a Mango grove and Akbar, the Mughal Emperor planted an orchard in 1556-1605 AD of 100,000 mango trees. It is a magnificent roadside and avenue tree. No wonder the holy authors of the Granth Sahib sang praises of the fruitful tree.

Tree is the Glory of God

Trees and plants are the manifestations of the glory of God. Svetasvatara Upanishad speaks—"Glory be to that God who is in Fire, who is in the waters, who is plants and in trees, who is in all things in this vast creation. Unto that spirit be glory and glory".

Plants are directly in the evolutionary chain of creation. Tattiriya Upanishad says (2.1)-In the beginning came space from Atman-Brahman. From space came air, from air fire; From fire water. From water came solid earth. From earth came plants, food and seed; and from seed and food came a living being, Man.

In 3.10.6 T.Up. on the wonders of Joy, Brahman says-I am the food of life, and I am He who Eats the food of Life. I am two in one.

In Sri Rag, Guru Nanak (A.G., p. 23) gives the relationship of God with His creation in some detail :

He the Lord of Taste, is the Enjoyer

He indeed is the Pleasure that He Enjoys.

He is the Bridge. He also is the Spouse in Bed with Her.

He is the Fish; He the Fisherman.

He the Net, He the River.

He the iron balls with the Net.
 He the Ruby that one finds in the mythical Fish.
Nanak prays-Listen to my supplication.
 Thou, who art both the Pool and the Goose in it.
 And the Lotus and also the Kamina flower
 And the one who enjoys their sight and is pleased.

God is Fruitful Tree

Tree in most religions has a spiritual significance, but Guru Nanak has called God TREE-(*Sahib sphaleo rukhra amrit jan ka nuon* (A.G., p. 557)-That my Master, art the Fruitful Tree, Thy Name is Nectar Sweet. And whosoever tastes Thy taste is satiated. Guru Amardas (p. 565) says-Thy Name, fragrant like Chandon tree (*Santalum album*), abides in one's heart. Guru Nanak (p. 24) says "He is *Mcuka* the Blossomer. By Him is the world kept in bloom. Blessed is He who has kept the seas and the earth together" Further (A.G. 25) the Guru says-He, Whose garden is this world Name He also the Trees, according to their fruits. So does a man grow as his mind be, and so does he get the Fruit as his Destiny. *What he sows* he also reaps. Here in an ecological principle of Action-reaction is revealed in material as well as in spiritual terms. Guru Ramdas says-*Har Har Sphaleo birkh* The Lord Har is the Evergreen Fruit bearing Tree, and whosoever dwells on Him is satiated. All his hungers are satisfied by drinking the Nectar *Har Har Amrit* of the Lord (A.G., p. 667). The Blessed Tree (of God) is in Bloom. It yields the Fruit of Nectar. The mind craves to peck at it. (A.G., p. 965).

God is Tree, Its offshoots, Its From-All in Habitat.

Himself is He the Tree : Himself it's Offshoots, Himself is He the Protector of His own Farm.....Himself is He the Sun. Himself the expanse of rays.....Himself is He the Subtle. Himself is He in Form. The Absolute and Related but He is Names. In Him both converge on a single point (A. G., p. 386). O gardener, why tear off the leaves and flowers, for these too have life. But the stone gods to whom you make offering these, live not says Kabir (A.G., p. 479).

What for shall I go out to search the woods. When the woods in my own Home are in Bloom ? (p. 420). Within our home is the Thing, there is nought without (p. 426).

God is Fragrant Tree

Thou art the fragrant chandan. I am but a mere costor tree but I live close to Thee. From a worthless tree I have become worthy of Thee, for Thy fragrance now saturates every pore of me, says Ravidas (p. 486). He who is the Ocean of peace, the Tree which yields all Fruits, the wish fulfilling jewel, the Master of the Kamadhena.....If Thou, O God art a mountain. I am Thy peacock. If Thou art the Moon, I am Thy devoted Chakori... If Thcu art an earthen lamp, I am Thy wick. If Thou art the pilgrim station, I am Thy pilgrim. O God I am truly attached to Thee (p. 658).

He is the Chandan Tree (*Santalum album*) that makes our dry wood fragrant (A.G. 668). One become the Philosopher's stone meeting with its like (A.G. 688), says Guru Nanak, and attains to an Eternal State.....I greet the Diamond-God from whom is the Diamond mind, puts in Kabir (A.G. 972).....Cut the unwise one sees mango on the lemon tree and vice versa; and a bunch of banana seems to him to hang on a bush-and the coconut he sees on the Simal tree (*Bombax malabaricum*), such is the ignorance of the unwise. He continues that God is like sugar mixed with sand. The elephant in thee, O man, cannot pick it, Abandon the ego of thy caste and pick it, becoming like a little ant. How simple is the lesson of humility.....Guru Ramdas (p. 976) explains further that Whether high or low, I have sung Thy praise, O Lord-and like the Neem tree (*Azadirachta*) that lives with the chandan (*Santalum album*) I have been blest with Thy fragrance.....Truth and contentment I gather in my skirt and the Lord loves me for my True speech. adds Guru Nanak (p. 764).

The Lord if my Beauty and my soul's only wealth and my castle (A.G.,p. 681). Thou art ever beauteous and wise and Infinite (A.G.,p.680);O, Thou ocean of goodness and Gladness. Thou Mine of Jewels (p. 6821, Beauteous is the garden of the earth, O Farid

but within it are the weeds of poison. To whom the God has blest, him touches not the pain or sorrow of weeds..... (P. 966) The play of the world is Thy creation and Thou art the Life of its Life, Permeating its every pore, It is like a myriad waves rising from the sea and then merging again in their source (A.G. 977).

Guru Amardas (A.G. 114) says that the Lord is the fruitful tree. He who drinks thereof, is eternally satiated.....And he who drink it is satiated. And all his desires are quenched (p. 119) Guru, Guru Nanak says (p. 139) is the tree of contentment, which flowers in Faith and fruitious in Wisdom. Watered by the Lord's Love, It remains evergreen and It ripens through Deeds and Meditation, Glorious is the tongue that tastes It. This is the Lord's Gifts of Gifts.

Guru is Tree; Guru is Water

The True Guru is the Tree of Gold, Its leaves are of corals, Its flowers of diamonds and pearls. The fruit is rubies that come from His mouth for He sees the Lord within.

Tree and water as already noted are life of Tropical environment. Man is the product of Tropical environments. Rain and cloud are the image of Indra, one of the Vedic Gods. Guru Nanak was also impressed as much with water as with evergreen trees.

In this hymn (A.G. p. 159) he state that Guru is the sea and His words (teachings) are the streams, bathing in which one attains Glory".....Out of water came the jewels when the sea was churned with the stick of the mountain of gold (Puranic lore). On the banks of the waters are the sixty eight of pilgrimages, where men gather at festivals and talk of the Lord.....When it rains, there's joy all round. In water lies the key to all life. It is the rains, that grow food, sugar and cotton which gives a covering to all. When it rains the cow has grass to graze and the housewife the curds to churn, And also the ghee with which is the sacred fire propitiated and the yajna and worship performed and all our works are blest. Guru Arjan (A.G. 180) emphasises

on the uttering of Lord's praises and then all vegetation seems to thee to be in bloom, and in flower and fruit.

Nature is within the human Heart.

Farida jungle jungle Kia bhavye (A.G. 1378) Farid a Muslim saint writes in Guru Granth—

"Why thou wanderest from forest to forest, breaking down thorns of the trees, The Lord (*Rab*) abides in the heart. Why thou seekest Him in the forest ? Guru Arjan (A.G. 203) wonders why (*ban Bun khojat phirat Bairagi*) The renoucer goes searching God in various woods. But rare is the man who embraces love for ONE God. Guru Nanak says (p. 84)-The Lord creates Nature and then pervades itNature has a value and yet is beyond value. He who sets a value on it becomes mute in the end.....

Farida, I am sacrifice unto the birds which live in the woods; for they peck at roots, live on the ground and do not leave the side of the God (*Rab*) (A.G. p. 1383).....

Thou art the Ocean of Peace my Lord, the supporter of the earth (p. 105).....The supreme Lord has sent down the Rains. In ten directions over land and sea, all places are full to the brim. There is Peace all over; the thirst of all is quenched and there is gladness all about.....He sustains all He creates.....

A bird has nothing to call his own (But) the water and trees all over are His God, the only Giver Gives, For He alone is (A.G. p. 144) !.....Some are fed on meats, some on grass Some are provided with delicacies of life. Some abide in the earth and eat the dust. Some live only to breathe and count the breaths. And others there are who live by the Name of the Formless God (A.G. p. 144).

Kalar Keri Chkapri (A.G. p. 1381)-The swans have alighted in a small pond of saline water. They dip their bills, but cannot drink and sick with thirst they fly away. Flying away they alight on the barley field and men run to drive them away. The ignorant people do not know that swans do not eat coarse grain. The birds which peopled the pools have flown away, Farid the brimful pool

shall also dry away and only lotus rhizomes shall remain.

God is Gardener of the world garden.

This world is a graden and my Lord is its Gardener *eho jug wari, mera Prabhu Mali* (A.G. 118).....Many birds settle on a tree (Tarwar) at night. Some are happy and some are unhappyWhen night passes away they look to the sky. In ten directions they fly according to the recorded destiny (Guru Nanak, A.G. 152).

Guru Ramdas (p. 666) also addresses God as Gardener-I cannot narrate the praise of (Har) God the Gardener of the world : He says further that Day and Night I utter the Name (Har, Har) and repeating I enshrine Him in my heart.

The names of God as Tree, Raindrop, Ocean, Nector, *Swanti* drop, are both materialistic as well as spiritualistic. Sher Singh (Ibid) calls the name of Lord as Tree, both "a metaphysical and a mystic concept. The tree is every morning fresh. It is new every time and, therefore, with it, it's every day new blossoms and flowers attracts the lover of the beauty of nature with a fresh vigour and fondness. A thing of beauty quotes Keats, is a joy for ever. Like tree, God is always fresh, beautiful and new. The psychological law of affection being blunted by repetition does not hold good, if the beloved is always ready to receive its lover every time with new and fresh appearance. This is the mystic concept of Tarowar. God as Tree is *Nit Nawan* (always New)-*Naw tan*-of fresh and youthful appearance".

Har jeo Amrit birkh hai jin pea te triptani (A.G. p. 514). Guru Ramdas sings *Har* (Lord) is the Ambrosial tree and they who quail this nectar, remain propitiated. The reference is obviously to the sap of the evergreen tree.....Accursed is such a life (*dhirig*) wherein *Har* (God's) Love is not obtained (490) Guru Ramdas (A.G. p. 492) adds, They who have not gained *Har Har* Har Juice (elixir) they are unforunate and handed over to death's myrmidon.

God is a Flower Girl

Elaborating on the many faces of God, Guru Ramdas (A.G.

p. 165) says-*He is the Flower girl* (Bewari whose garland is the forest-reference is to Vishna), Master of the woods, who Pervades All..... He Himself is the chatrik bird. He Himself is the rain of nectar. He Himself makes us drink His Ambrosial drink.

Viewing Tree, forest, water, rain, sea, all used for God in the Adi Granth one feels that all these are part of a broader concept. Tree in the dictionary meaning is-“Perennial plant with self supporting woody main stem, usually developing woody main branches at some distance from the ground”.

“Tree is one of the most stable organisms in Nature and one of the most remarkable. Without pumping mechanism it can draw fluid nourishment hundreds of feet skyward towards its crown. In a way it is uniped, going nowhere, yet casting its seed upon the wind, converting animal waste into animal necessity in a process of photosynthesis which uses carbon dioxide and expels oxygen. And while a tree draws almost half its fluid nourishment from the surrounding air, more than half of its sustenance comes from roots sunken deeply or widely into the earth. It brings into union all elements of Nature-earth, water, air, fire (Sun), ether (Sky). It is the source and sustainer of all life, including human beings”. In its growth of one 1b a tree discharges to the atmosphere 35 gallons of pure clean water.

Tree is God and most of other attributes of God used in religious context can be understood more clearly with reference to Tree, or an Evergreen Tree.

God is Tree, seed, flowers, fruit, shade, birds, water, Ecosystem.

Kabir tarwar roopi Ram hai phal roopi bairag, (A.G. 1376) Kabir, the Lord is a Tree and the lord's Love is like a fruit. The saint who has abandoned vain strife is like its shade. Kabir sow thou the seed of such a plant, which bears fruits throughout the twelve months, and whose shade is cool, Fruits are abundant and on which the birds joyously play. Kabir, the *Beneficent (Data) Lord is the Tree, whose fruit is compassion and who does good to all Beings.* When the birds migrate to another country, they say, O

tree (*birkhi*) may thou bear sublime fruit.

Guru Arjan (A.G. p. 102) also addresses God as Tree (Ped). *Thou art the Tree. Thy bronch has blossomed* : From the minute (seed) Thou hast become very big. The obvious reference is to the growth phenomenon of the tree from the seed or root to Big Tree and Guru Goes further to say with obvious reference to physiological processes in growth that "Thou art the Ocean of Water and Thou its foam and bubble. Without Thee I see no other. It is understood as tree is at least 75% water and it is most important means of Conservation of Water, land and climate.

In the Adi Granth, God and Guru are often substituted one for the other. Guru is also the medium or the means to reach God. Guru is light so is God. Guru Ramdas (A.G. 40) says variously The Guru is the Pool of Nectar : the fortunate one's bath in it.....The Guru's boat is the Lord's Name, but how to board it ?O Friend, thy spouse is true Guru.....The Guru is the place of Pilgrimage; Guru is the *Kalpa tree* (the coral tree, one of the five wish fulfilling trees of heaven of the Hindu mythology).....(A.G. 52),.....How wondrous the lights of the sun and the moon, but Lord's Light is the three worlds, (p. 57)O my mind, Love the Lord like the lotus loves the water (p. 59). I am like the chatrik bird, in the Sanctuary of the Guru. He puts Nectar drops in my mouth. I am like a fish in the Lord's waters, without water.....how can fish be ? (p. 95).

Guru is Tree and God is Raindrop

God is also addressed as a precious Raindrop. Guru Ramdas (p. 668) says *Hor Har boond bheay Har swami*. God (*Har Har*) is the raindrop and I, a sparrow hawk (*chatrik*) am wailing and bewailing for it.....(*Har bin*) without God (*Hor*) I can live not even for a second. Again-Tum *Har Sarwor*, Thou O God (Har) are an exceedingly deep ocean and I cannot find even a trace of Thine limit.

Evergreen Tree is a New Name of God

Praying for God (*Har*) authors of the Adi Granth have used

a great variety of objective, functional and traditional Hindu-Muslim names for God. But as noted *Ped* (tree), *Tarwar* (tree) *Mali*, *Banwari* (Gardener) Raindrop are new names. Dr. Sher Singh (96, pp. 169, 172) has made a pointed reference to these names.

Nature and Spirit in Time, dimension, space

In *Baramah* or Calendar Poem (A.G. pp. 133-36) Guru Arjan describes changing moods of Nature over twelve months of the year and relate to the changing human moods of souls in love, particularly when one is separated from the object of love. The meaning is both psychological, as well as spiritual, as love is with body as well as with the soul in the body.

Guru says of Love (p. 133)-

Without love of the True One, all else is vain and False.

Without the love of the True One the False ones are bound and driven away by the Yamas

Without the love of the True One, the body is dust and to dust it returns.

Without love of the True One, all that we eat and wear increases our cravings for them.

The bitter colocynth, swallow wort and thorn apple and neem are in the mind and mouth of the one who cherishes Thee not. O Lord.....The mind is like the bird, and as are its deeds, it becomes now good, now evil. It sits on the sweet smelling chandan tree, now on the bough of the poisonous swallow wort. And then again is attuned to the Highest Truth. Nanak the Lord drives all in His Will; for such is His Nature.

The deserts are not satiated by rain

Nor is fire satiated by wood

The King is not satiated by his dominions

And the seas are thirsty as soon as they are full

Says Nanak - Such is my thirst for the True Name.

I seek its company ever and for ever more.

Work is really worship. Labour is in fact Love and without

the Lord's Name in it, all are empty shambles. The lifestyle for the Sikh is to do honest work to share the fruit of work and to remember God's Name, is trilogy of virtuous life. Otherwise, Guru warns (A.G. p. 463) Those who do not dwell on the Guru and consider them wise, they like spurious sesame (*Brassica*) seed are abandoned on the farm (of the world). Abandoned and alone, they have a hundred masters to please and though they seem to flourish; within the body of these wretches there is nothing but ashes. It is the soul and not the body alone that has to be involved in space and time on life's activities. The obvious reference is to hypocrites, do-gooders, even to cheats and the like who pose for what they are not.

For, the Natural world is the abode of the True One, and in it the True One Abides.....Creating the world of Life, and Implanting His Light within it. God made it the seat of *Dharma* (Divine Law).....By implanting Thy Light within us, God made our body the seat of *Dharma*-

Guru Nanak affirms (A.G. p. 463) that-

True are Thy worlds, True Thy Universes,
True Thy Regions, True the Forms Thou createst
True are Thy Doings, True all Thy Thoughts.
...

The who dwell on Thy Truth, are also True
For all that is born to die is false and vain.

All Natural phenomenon are thus True, wonderful and glorified as is the Noumenon.....

Wonderful is the earth, wonderful the species
Wonderful are the creatures who wander about naked.
Wonderful is air, wonderfull is water
Wonderful is fire that works many wonders
...

O wonder-struck am I to see wonder upon wonder
But it is through perfect Destiny that one knows its answer.

Some Common Functional Names of God

Shade, Photosynthesis, Oxygen and water transpiration are all the phenomenon of Green colouring matter chlorophyll. *Hara* is the Green colour *Hariawal* is greenery and the frequent occurrence of Har in the Granth is one of the functional Names of God for an Evergreen Fruitful, shady Tree.

As already noted, the human being is the product of the Tropical Evergreen forest environment. All the necessities of life, even today, are provided by the forest for the inhabitants. Forest also provides home for other land, water, air creatures.

Guru Ramdas (p. 167) says in gratification to *Har*, the Evergreen God : Thou gavest me life and body and a beautious form and the cool water to drink, And the food to eat, And clothes to wear and other joys to enjoy. But I remember not Thee who givest. And think I animal like that I brought these myself to Myself.....What can we, mere creatures do ?

Of the various functional mystical or historical names (7) used in the Adi Granth :-

Har occurs	8344 times
Nam (also Har Nam)	5999
Ram (also Har Ram)	2533
Har Jas)	
Gopal	1491
Prabhu	1371
Thakur	216
Murari	97
Sati Nam	59

Guru Granth thus tells us to chant *Har*, meditate on *Har*, day and night, by every breath-

Har Har Har Har Har Hare Har Har Har het

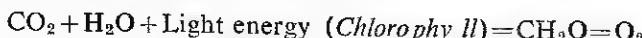
Oothat bethat sowte Har Har Har chet (A.G. p. 810)

If we designate Har as spiritual Greenery and Guru as Light, So Light and Green colours are the basis of biological and spiritual Life. Photosynthesis is the process by which Light's energy is

converted into biochemical energy in the Chlorophyll of chloroplastin plant leaf.

Effect of Light on Green plants.

In plants solar light energy produces organic matter from carbon dioxide of the air as under :



In the process of photosynthesis the radiant energy of the light is transformed into the chemical energy of a stable organic compound as a carbohydrate in the green leaf. CO_2 in the atmosphere is 0.03% by volume, and it enters the leaf through the stomata, diffusing through inter-cellular spaces and dissolves in water in the mesophyle cells. It is moved by photoplasmic streaming through the water of the cytoplasm to the chloroplasts, where it is converted to organic substance in the presence of light. The process varies a little in different plants e.g., monocotyledons have sugar leaves and dicotyledous starch leaves (33,111).

Starch accumulation continues rapidly in the day, increasing with increasing CO_2 , increasing temperature and increased light intensity. In this process Blackman's principle of limiting factors that—"when a process is conditioned as to its rapidity by a number of separate factors, the rate of the process is limited by the pace of the slowest factor," applies.

At night, in darkness respiration and translocation of the starch accumulated during the day takes place. The effect of temperature on photosynthesis is crucial as it takes place generally between 5°C-35°C. As the upper limit is reached the photosynthetic rate declines and any higher temperature may damage the protoplasm of the leaf.

The chloroplast in the cell of most flowering plants has chlorophyll a and b which are Green in colour, as they absorb violet and red light strongly, transmitting Green light. The other two pigments in chloroplast, namely, xanthophyll and Carotenes are yellow to orange in colour as they absorb blue and violet light more strongly than light of other colours.

Our earth is between 4,500-5,000 million years old, having originated as a whirling globe of hot gasses, also mentioned in the Adi Granth. As this mass cooled and heavy atoms of iron settled down in the centre of the earth, the lighter atoms of Hydrogen, Oxygen, Nitrogen and Carbon most abundant elements in the outer layer reacted to form water, Ammonia and Methane. Carbon has great capacity of linking directly with other Carbon atoms forming long molecules of extremely varied compounds that are the backbone of organic life.

In addition to Polysaccharides and fats, proteins and nucleic acids were also formed by the linking up of Nitrogen with Carbon compounds in the evolution of Life.

But Photosynthesis and Aerobic Respiration are the two linked metabolic processes in autotrophs. Although, the green plants supply the energy for the continued existence of heterotrophs, some of the organisms evolved into an aerobic heterographs by reduction of atmospheric carbon dioxide by Hydrogen.

It may be restated that all life is dependent on green colouring chlorophyll of plants and it is no wonder that the functional name of Har for God has such a significance amongst the Poets/Saints and Gurus of the Indian subcontinent where the evergrowing human population brings into the forefront the question of Food and Poverty (48,60). Plants have as much aesthetic and spiritual significance as biological and sources of energy. All the energy in Fossil fuels is the product of the photosynthesis.

Deforestation not only deprives the population of the sources of energy food, fodder, fuel, indigenous medicines, but also its culture and religious pattern of life. Examples from the Western Ghats (77), Rajasthan (82), Northern India (85), Himachal Pradesh (98) and other parts of the Indian subcontinent (76) can be seen.

Human Body

In Ramkali (p. 913) Guru Arjan says *Is pani te jin tu Gharia*. Form the drop of water who has fashioned and gathering dust

body is made. He infused in it the light of reason, wisdom, discrimination and He preserved thee in mother's womb, O man remember thou thy protector Lord.

The body is the invaluable citadel of gold, wherein is permeating the Infinite Name (p. 1059). The body-lotus is withering away, but the ignorant ego-centred know not the Name. Searching his body through Guru's Grace (Light), the mortal finds within the Bounteous Lord, the Life of the World.

Some are attached to the root, they are blessed with peace. Those who are attached to the branches they lose their life in vain. Those persons who utter the Nectar Lord, bear the fruits of Nectar (*Amrit*).

Man has evolved from lower animals, as we understand through the theory of Evolution of life. As I have said earlier with reference to the remarks of Mrs. Pearl Buck, Sikh Gurus were knowledgeable of Science. Here, Guru Arjan (A.G. 176) explains the evolutionary development of the human being-For several births thou became worm and a moth. In several births thou wert an elephant, fish and a deer. In several births thou became a bird and a snake. In several births thou were yoked as a horse and as an ox.....After a long time the human body is fashioned.....In many births thou wert created in rocks and mountains. In many births thou wert aborted from the womb. In several births thou wert produced as a branch (vegetation). Within eighty four lakhs (one lakh is 100,000) of existences thou wert made to wander. By virtue of the Society of the Sainte, thou hast obtained the human birth.

The Human body is variously described by authors of the Adi Granth in various situations-

The human body, like the herdswoman, is of low caste but when she attains her spouse and abiding by Lord's Name, becomes a Woman of High family (p. 516).

Mardana (p. 553) says that human body is the pitcher. Self ego is the wine and the society is of eraving and outgoing of the

mind. Desire is the drinking bowl, brimming over with Falsehood and the yama is the barman. Drinking such a wine, who will earn anything but vice and sin ?

The human body is like a simmal tree (*Bombax malabaricum*), thick, tall, shooting up arrow-like into the high. Its fruits are insipid and flowers nauseous and its leaves are of no use. If someone comes to it hoping to find something to eat he goes away dismayed. Guru Nanak says sweetness and humility are the essence of Virtue (p. 470).

For the soulful human body there is a chariot and a charioteer. In the Kali Age, the chariot is of Fire and it is driven by Falsehood. In this the reference is to the Misuse of Energy (Nuclear, Electricity, petroleum, gas etc.) and falseness is to the state of pollution.

The human body is a fortress of the Infinite. It is when one's destiny is awake that one attains to it. For in the body abides the Enjoyer and the Relisher.

On the fortress of our bodies are the hard doors-Falsehood and Ego.....Men assume various garbs and make many efforts but they find them not. (p. 514).

Within him is the dirt and he cleans not within, but from without he wears the garb of ascetics, says Saint Trilochan (p. 225).

Human Body is a Tree

"The body is a tree", says the Guru (A.G. p. 934)-On the tree are perched five birds. Such of these as pick the essence and get not caught in the snare. Those rushing around, seeking plenty of grain, find their wings broken, are caught in the snare and involved in suffering. From the snare there comes no escape except by God's Grace.

Referring to the futile caste superiority, Guru Ramdas (p. 86) reminds that-Brahmin, Kshatriya, Sudra and Vaishya-Four are the classes and four are the stages of life. None is holy by birth. He alone is noble who is devoted to God. As the poor

castor plant (*Ricinus*) acquires fragrance from the sandalwood tree (*Santclam album*) growing near, so do the fallen become approved of God in holy company. Kabir says There is no need to leave home and family to dwell in a forest and live on herbs and roots to seek divinity. The sinful polluted heart still does not discard evils. (p. 855) to which Guru Ramdas adds (p. 140)-Some live on herbs and roots and take their abode in forests. Others wear ochre and wander about in the way of anchorites (Yogis or Sanyasis). But it avails little to make them pure All such have wasted their lives.

Meditation on God is the only panacea of such ills of the soul. Guru Arjan in Sri Rag (p. 70) makes it clear One possessed of great wealth, living in exalted style, of great fame, maintaining splendid traditions, fixed in love of relations and family, Lord of hosts, warriors, honoured by one and all should he not meditate on God Must he be dragged to the nether regions, the hell ? One has to cultivate Name by treating body as an agricultural farm.

Human Body is an Agricultural Farm

Guru Nanak (A.G. p. 26) observes that human body is the farm, thy action the seed. It is watered by the Name of God in whose hands is the whole earth. The mind is the farmer and when the Tree sprouts in thy soul thou attainest the state of Nirvana.....If good actions be thy farm and thy seed be the Word, watered by the Way of Truth, the growth will be of Faith which brings knowledge of Heaven and Hell.....He is the Master (*Maula*) by Him is the world kept in bloom. Blessed is He who has kept the seas and the earth together.

In the farm of the body, sow the seed of the Godly deed. And there out of thy green field sprouts the Lord. Steadying the mind, yoke it as a bullock to irrigate thy farm with the Lord's Love through the Guru's Word. (G. Ramdas, p. 368).

I sowed the seed of the Lord's Name in the Farm. And I busied in the service of the Guru. Peace and Poise fill all shops (A.G. 430).

Let the mind be the Farmer. Good deeds the Farming and body be the Farm. Let efforts in the way of God, irrigate thy farm. Let the Lord's Name be the seed and contentment furrows and let the fence be of Humility. If thou doest deeds of Love, thy seed will sprout and fortunate then will be by thy side. (p. 595).

Of the material things of the body, the Guru warns Riches, beauty and flowers are but the guests of a few days. Like the Lotus leaves they wither away as they sprout. Enjoy thyself, my love, till the beauty is green.....

God is all pervading He, the Lord of Taste, is the Enjoyer. He indeed is the Pleasure that He Enjoys.

Guru Nanak urges us to cultivate Name in the following way (p. 955) Let Love be the Farm, Purity the water and Truth and contentment the two Bullocks. And Humility the Plough and consciousness the Tiller and Gop's Remembrance the Right soil and the season the Union with God. And the seed be of the Name and the Crop of Grace, then before it, the whole world seems an illusion. If such be one's deeds, by the Lord's Grace, then one is separated not from God. Guru Angad Adds : Be not full of care.....For He creates creatures in water and brings them sustenance. There, they farm not, nor run their stores.....And it is His Law that one creature eats another. They who are born deep down in the sea, them also He feeds.....So rid the mind of care, for thy Lord takes care of thee. He sustains us all and bringest our daily food. He holds and supports us like His children. He is worthy of our Praise.....He pervades the waters, the earth and the interspace.

Guru Ramdas (A.G. 668) says the Lord is the *Swanti* drop. I am but a chatrik bird craving to receive it.....Thou art the unfathomable sea. We cannot fathom Thy depth.

Sweet sweet is Thy Word, adds Guru Arjan (p. 962) Thy Nectar Name. I enshirne it in my Body, Mind and Heart.

Effect of Light on the Human Body

Sunlight tones skin, stimulates the formations of Vitamin D and sets biological rhythms. It has a healing effect on disease, writes R.J. Wurtman (114).....

Physiological and biochemical changes take place in the human body, exposed to light in the treatment of common skin psoriasis, neonatal jaundice. The secretion of hormones is synchronised with daily biorhythm. A hormone synthesised by the pineal organ of the brain, melatonin and adrenocortical hormone cortisol in the blood follow the rhythm.

Of the Solar radiation reaching the earth, about 20% has a wave length longer than 1,000 nanometers. The remaining has ultraviolet from 290-380 nanometers; the visible spectrum from 380-770 nanometers and the near infra red from 770 to 1,000 nanometers. In the midday it has the peak intensity in the blue green region from 450-500 nanometers, ultraviolet wave lengths between 290-320 nanometers produces inflammatory reaction, redding the skin. A number of toxins like serotonin, histamin and bradykinin are probabaly produced, causing heat, swelling and pain.

By the direct influence of light on human body calcium absorption is seen to increase; Premature American infants were treated with Solar radiation therapy.

Indirect effect of light is related to biological rhythm in mammals, affecting sleep, food consumption, water intake, body temperature in cats. In human beings the concentration of cortisol takes place in the morning hours soon after waking, dropping in the evening to the minimum.

It has been found that Green light is much more effective between 400-600 nanometers in estabilishing a new rhythm.

Bdy-Mind-Soul Complex

O mortal thou were conceived from the female egg and male sperm and were placed in the fire of womb, head downwards and dwelt in the filthy dark hell. Remembering God, thou were burnt

not, so keep Him clasped to Body, Mind and Heart (p. 706). Human life as thus, is the way to receive the Gift and God, although all life is His Gift, but in the case of humans it is the added Grace and Love, for the Giver gives Himself also in the gift in the form of Soul (Atma) and Mind (Manua)-the great consciousness which distinguishes Man from animals. Scientifically, man is another animal or, technologically, he is the most efficient Machine. The Brain, the site of Mind and soul is considered a highly advanced computer but, in spite of the great human invention the computer is not a live object. It has no power of reproduction, growth and development which distinguishes living from the non-living.

Theologically, human birth is priceless and unique as Kabir reminds in *Sloak Manas janam durlabh hai*. Birth is a precious material. *Mann merea janam padarath paeke ik sach lage-wapara* (p. 569). After getting this gift of birth get on with the business of Truth, is the Hukam, order or Will of the Giver.

Is kaeya ki kimat kine nahi peey. Mere Thakur ehe banat baney (p. 1066). No one has fixed a price on this human self, My Lord has made it.

For human self, several words have been used in the Granth which have overlapping meanings-such as *Kaeya, Sirira, Mander, Nagri, Khand, Har Mander, Man mander, Kamai*, etc. : Mind is also variously interpreted as Light of the Lord or Soul-within the cave of the mind is an exhaustible Treasure, within resides the Unknowable-Infinite Lord (p. 124). The body is the blind dust, Ask thou the soul that breathes life into it (p. 511).

Guru Nanak in *Ramkali* (p. 907) says that God, who has installed His might on the earth and sky has made His Home in the MIND'S MONASTRY (of human beings). Further, *Kaeya Nagri eh mann Raja*-In the city of the Body this MIND is the King and the five knowing faculties of perception abide in it. Seated in this palace of the body the meritorious King (Mind) utters God's Name and ministers justice.....He who assays his body and reflects over the quintessence of his SELF, crosses the terrible

world-ocean of matter to Liberation. But Guru warns (p. 908) *eh mann maya moehia*. The mind is bewitched by material wealth, O Yogi, deliberating on the Name it is released from captivity.

This body is the tank of nectar (*eh sir sarwar hai santoh isnan kare live laey*, (p. 909) and one should bathe in it by enshiring affection for God.

In *Maru Sohila 5*, Guru Arjan says *Lakh Chaurasi jon sbaej manas kow prabh diei wadaey*. Out of the eighty four hundred thousands living species God has given a place of pride to the human being. Bhai Gurdas in Var I confirms this *Chaurasi lakh jon wich uttam janam so manas dehi*. Out of eighty four lakh species the highest place is of the human. For God has given him eyes to see, ears to hear, mouth to speak good words; Hands to do helpful jobs, feet to walk to the sadh sangat-the congregation of saints.....

In these daily chores Guru-centred being liberates himself, as well as others. For the ultimate object of human life is to get liberation from the cycle of birth and death and reach from mortal to immortality. This is also the gaining of ultimate knowledge by becoming, what one learns.

Learning by bearing, observing, believing and becoming is not through instinct inherited as it is in animals, but it is through active educational process by the cultivation of faculties of the brain and the mind. Human brain at birth is about 380 gm, which is 12.4% of body weight but in adult it becomes 1409 gm (in male) and 1263 gm (in female) which is about 2% of body weight.

In the first three years the growth is rapid, but it becomes less so to the 7th year, at which age the brain size is not far off its full weight. Afterwards, the growth slows, reaching full weight in about its 20th year in male and little earlier in female. After the 20th year the diminution of brain weight starts by approximately one gm a year. The brain deterioration over the age of 45 results in strokes and in Britain as many people die of strokes as all forms of cancer; 115, 732 in 1970.

Brain uses 20% of blood supply and 25% of oxygen that all the body uses. It is the first to eat and the last to starve.

Human brain is the seat of Mind, thought and sensation (9). It is the controller organiser, the information processing centre of the body. It acts like the boss; it is the boss. It comprises 100 Billion cells, of which only 10 Billion are Neurons, which form the substructure of thinking and feeling instrument.

But the human mind is like an elephant. The Guru (Light) is the elephant driver. Wisdom is the goad and howsoever the Guru instructs, so doth the mind follow. The mind elephant, says Nanak, without the Guru's goad strays from the path (p. 516). That is why the warning goes-O mind, retrace thy steps from the company of the worshippers of Maya (illusion). False is the love of the falseIn the house filled with collyrium whosoever goes is blackened (p. 535). Know that false are the lovers of the world (Material). For all are attracted for their own pleasure.....The foolish mind knows it not, though it is instructed day in day out. One crosses the Sea of Existence only when one sings the praises of the Lord. (p. 536).

Let thy mind be the farmer Good deeds the farming and thy body the farm. And let efforts in the way of God irrigate thy farm. Let the Lord's Name be the seed and contentment the furrowing and let the fence be of Humility. And if thou doest deeds of Love thy seed will sprout and fortunate will then be thy Home (p. 595). As fire is locked in the wood and butter in the milk, so does the Lord Pervade all hearts and His Light illuminate high and low. (p. 617).

The one Light of God lights the earth and the skies.....He Manifests Himself through His Light.....He is the One, who works through air, water and fire.....He is the Life of all life, and without Him, there is not another (p. 930).

As even in a jungle fire some trees remain evergreen, And as out of the fire of the mother's womb, the child finds release one day. So does God save His Saints.

The Lord has Blessed me in the pool of the Nectar-Name. How efficacious are the Waters of Wisdom that wash off the Soil of all one's sins ! (p. 981).

Light is the Guru and the whole world sees the Guru, but does not attain deliverance, because it reflects not on the Word of the Guru. The world of the Lord is the only True Speech. Hear it, Hymn it, utter it ever and the Perfect Guru saves thee (p. 611).

Man as soul is ever pure, free and godly in essence. The soul in human derives its power from the Over-soul. But this is the mystery, which one has to unravel. The pitcher holds the water, but without water can the pitcher be shaped ?.....The mind is held by wisdom, but how can one gather wisdom without the Guru ? One has to probe into the soul.

As fire is locked in the wood and butter in the milk, so does the Lord Pervade all hearts and His Light illumines high and low. Lord abides all hearts. As He fills all, in waters as over the land (p. 617).

As fragrance abides in the flower and reflection in the mirror, so also God abides within Thee, says Guru Teg Bahadur (A.G. p. 684). He Himself is the wood. He Himself the fire locked in the wood. As the Lord Himself Pervades both, through His Fear the fire within the wood does not consume the wood. The Lord Himself Gives and takes away life. We live only if such be His Will.....He is the power of the powerless.....He Himself obeys His Will. Himself He gives the command (p. 606).

The ego-centric man has to understand and have faith in this relationship with God. Those who have achieved this wisdom become one with the Lord. Those in whose destiny Thou so writ, O Lord, they alone dwelt upon Thee. In the hands of creatures (away from God) is nothing.

Guru Nanak says (A.G. 685). In the Guru are the Devotees; within the Devotees is the Guru. He is the Lover of His Devotees. In the Master is the Servant, in the Servant is He the Lord (p. 686). Kabir (p. 692) says Hear ye men, dispel the doubts of your

mind.....As water mingles with water, So have I, the Weaver, merged in my God.

It is not the environment that is polluted, but it is the humankind who is the source of all pollution. False from within but honourable from without does not solve the problem. The cleaning has to begin from the human mind. Guru Nanak states- whatever is in the mind bears fruit, whatever is in the mouth is wind. He who sows poison and seeks to reap nectar, does no justice to his mind. (p. 474).

Human Body is God's (Har's) Mansion

The body is the Lord's Mansion (*Har Mandir*) Har has himself embellished it within that Har (Lord) abides (p. 1059).

Har-Mander Har sejha Har wasey jis nal (A.G. 1418). The Palace of the Lord (Har) has built and in it abides Lord Himself. By searching in the Palace within the body fortress, man finds the Lord in his heart. *Har Mandir eho srir hai* (A.G. 1346). The body is the Lord's mansion wherein is revealed the Jewel of Divine comprehension Guru Amardas extends the meaning of Har-Mandir to world (*Har Mandir eho jagat hai*). (p. 1346) and all that embellished in God's Name is God's palace. It is invaluable fortress of Gold.

Guru Ramdas says that *Jeo pind sabh tisda* (A.G. 1420). The soul and the body all belong to Him, the Lord and He has everything with Him. One Lord pervading all hearts, illuminates everything of the mortals through His Nam, He alone enjoys Spring (Basant) who is immersed in the True Guru's Service. The Lord rains mercy on him and his mind and body all flower and through him the whole world becomes green (Hariawai). Through the Nam body and heart become evergreen (Haria).

Beauteous (*Sunder Mandir*) is the palace wherein the Lord's praises are sung. (A.G. 13t0). *Dithe Sabhe Thaon nahin Tudh jeha* (A.G. p. 1362). I have seen all the place but there is none like Thine. Of Himself, Lord, the Creator has established Thee, therefore, Thou art beauteous says Nanak, O Harhan one's sins

are washed off by bathing in the tank of Ramdas. The reference is to the Har Mandir at Amritsar.

But as a general rule Guru Arjan (A.G. p. 105) opines that *Jithe Nam japea Prabh piyare* where the Name of the Beloved Lord is repeated those uncopied places are like the Golden mansions. And, where the Name of my world Master is not repeated those towns are like a wilderness (ujar). So *Sach mandir jito sach* (A.G. 107). True is the palace wherein the True Lord is remembered.....Beautiful is the Land where God's slaves (Harjan) abide.

Human Body in the Kaliyug (the Polluted age)

In the Kaliyug (A.G. 161) no one is attached to good actions and righteousness. The dark age took birth in the house of a pariah (chanda). *SabJag Kale wuss* The entire world is in the power ? of death and is bound to duality. The ego-ists go about their business in pride and are awarded punishment (p. 162). Egoism, malintellect and the poison of sin have led astray the world. If an apostate, who is total darkness meets the True Guru, then only he comes to possess vision of true state (p. 312). *Mayadhari* the man attached to the mansion is very blind and deaf. He hears not the Name and makes a great uproar and tumult (A.G. p. 307). As are the actions the man commits so is he spoken of. In greed and avarice and pride the self willed forgets the Primal Lord (p. 316).

Guru Amardas (p. 508) warns that The world is being consumed by Ego and Kabir adds (p. 509) The door of Salvation is narrower than one tenth of the sesame seed (*Brassica*). My mind's ego is inflated like an elephant, how can it pass through it ?

Of the ego-centric it is said (p. 511), he is like an inverted lotus, he has in him neither devotion, nor the Lord's Name. He works goaded by Maya and false is all his effort.The ignorant egocentric has guile in him and he utters nothing but falsehood. Mardana (p. 553) describes Kali age as a pitcher, filled with the wine of lust and the mind drinks it with deep. The

wrath is the drinking bowl, brimming with Desire and Ego is the barman, and we have drinking bouts in the society of ego and so we are wasted away. He advises let good deeds be the pitcher and Truth the Molasses and wine be of Thy Name, And virtues the bread, culture the butter and Modesty the meats. By eating all these all sins are destroyed.

Even in the Kali Age the Lord is forever near thee, nay, within thee (A.G. 376). The Lord pervades all, and is ever with all (376).

Within my home is gladness : Gladness in outside my Home too. For I dwell upon the Lord, so all my woes are past (p. 385). The Lord of ours Fills all places; He is the roof over my head (p. -98).

Of men, vegetation, of pilgrim stations, river banks, of Clouds and farms, of Islands, spheres, regions and universes, Of egg born, the womb born, the earth born, the sweat-born, And of the seas, mountains and of all creatures, He the Lord alone knows the limits.....He who creates all, He sustains them too. He whose wonder is this all, also cares for it, says Nanak (p. 467).

But in sheer ego and selfish actions, man has immersed himself in lust creating around the pollution of Falsehood and Impurity. Seeing a situation like this Guru Nanak had sung a hymn of lamentation (p. 468). False is the King, False are the subjects, False is the whole world. False is the Palace. False are the skyscrapers, False the indwellers. False is Gold, False is Silver, False is the wearer. False is the body, false the garments, false the infinite beauty. False is the Groom, false the bride, for they are all wasted away.

The false ones love the false and forsake Their Creator LordPrays Nanak, O Lord, without Thee All is False. Matter without recognition of Spirit in it, is False, the emphasis is on Truth and Purity in all human actions. Because the world is the abode of the True one, in it the True One abides. Some, in His Will merge in Himself. Others He destroys in His Will, adds

Guru Angad (p. 463).

Conclusions

Sikh faith, thought latest in the family of World Religions, with its roots deep down in the matrix of the two, the Semitic and the Oriental religions has developed its own distinct personality and characteristics in 239 years from the birth of Guru Nanak in the 1469 to the death of Guru Gobind Singh in 1708 AD. Guru Gobind Singh, however, traces lineage of the Bedi caste (Guru Nanak) and his own Sodhi to the historical Lord Rama through his sons Lahu and Kusho.....It is fair to consider however with S. Radhakrishnan that Sikhs are ex-Hindus.

However, Sikhism has its own distinct Theology, Metaphysics, Cosmogony, Practical Philosophy, Aesthetics and Ethics.

Above all, it is unique in its perception of the Environment in considering earth as the Temple of God, a sphere of duty for the human. Accepting most of the Functional Names of God in the Semitic and the Oriental religions, it has popularised its own distinct Name and considers God as an Evergreen fruitful tree, fragrant tree, that provides sustenance to all His creation. Similarly, Sikhism regards Guru, the world, and human as a tree. Probably, impressed by this aspect of the religion, Professor Mohan Singh in one of his famous Punjabi poems considers Sikh Faith as a Tree that is so versatile that it can grow on anything and everywhere, from the most unfavourable, inhospitable, hungry or barren environment to the most friendly moral and spiritual environment (*Sawe Pattar* Green leaves pp. 51-56) : It (the tree of Sikhi) has flourished from adversity to adversity and has adopted the slogan of *Chardi Kala* Progressive life force. He says of the tree :

paer is de dharti
 Par aap uchera ee
 jithe dil esda ee
 jithe sir esda ee
 oh thann ucheri ee

Its feet are on the earth, but itself is high up. Where his Heart is, where his head is, that place is high. It is in open air. It is in pure environment. It is in God sphere, where there is neither an enemy nor an unfriendly being.

Based on the same conception of man and environment, Sikh is considered an analogue to a lotus plant *Nelumbo uncifera* with feet deep down at the level of rhizome and roots in the mud of worldly life, but heart above water at the level of leaves and head higher up at the level of fragrant flowers and fruits in the Realm of Purity and Freedom. This is the life style of the Sikh approved by the Guru and God. This analogy is used in the Guru Granth in many a places.

This unique perception of God-Man-Environment complex has been given a practical shape in the construction of the Temple of God, with foundation (feet) deep down in water and head higher up in the fresh, free spiritual environment.

The use of white Marble signifies Truth and Purity. With embedded Gold leaves all over the walls, both inside and outside the Temple gives an expression of Regality and Imperial splendour. For the Guru is *Sacha Padshah*, True King-Emperor.

The installation of the Guru Granth Sahib the compendium of Eternal Light, sound, love and Grace inside the Temple and the day and night singing of Guru's hymns is to produce an environment rich in melody, moral and spiritual flavour that is the food of the human soul.

The Temple of *Har* is open on all four sides. The placing of doors and open windows all around at various levels is likened to the inter-cellular spaces as if for the transfer of gasses and solutes in a green leaf.

The picture of Har Mandir at Amritsar creates Environment of Heaven on Earth with God, Man, Water, Air, Matter and spirit mingling perceptively one with another. The Nirankar (Transcendent) is *akar* (Immanent in its Being).

This model of the perception of the Sikhs of the Environment is unique among the uniques.

The Temple of *Har* God, besides, has added complexes to include the Temple of Learning, Temple of Breed, Temple of Service, Temple of Politics, the Akal Takht is an added novelty to make the Sikh environment an amalgam of Religion, Economics and Politics—an Holistic Ecology that approaches Eco-sophy.

Sikhs have created and maintained a Natural Environment that is neither seen in the Semitic nor in the Oriental religions. By just building the Temple (Gurdwara), often on the river bank, or a constructed tank, the urban growth has been modelled more on moral pattern than on materialistic standardisation.

As already noted, Water is life. It contains by volume 85.79% oxygen; 10.67% Hydrogen, 0.01% Carbon; 0.02% Nitrogen and 0.05 Calcium. The atmosphere in contrast has 23.02% Oxygen; 0.02% Hydrogen and 0.01% Carbon and the bulk of air is Nitrogen 75.53%.

Almost all the time in the *Har Mandir* breeze from the tank blows inside by one or the other door, keeping the interior fresh, healthy and stress-free. There is hardly a place inside for crowds to sit. So the whole environment is kept pure and unpolluted.

The hymns in the Granth Sahib preach the acquisition of Truth, Contentment and Meditative Wisdom as these three along with Amrit Nam of God makes a delicious meal for the soul. Non-contentment or desire is the mother of all types of stress ailments. The Sikh is in direct communion with God in this Environment and cultivates this in others.

F. Schumaker wrote that "The cultivation and expansion of needs is an antithesis of wisdom. It is also antithesis of Freedom and Peace. Every increase of Needs tends to increase one's dependence on outside forces over which one cannot have control and therefore creates fear. Only by a reduction of needs can one promote a genuine reduction in those tensions which are the ultimate cause of strife and war."

Before the actual strife and war is enacted, human mind becomes the battle-field of Desires. The Stress producing "fight and flight" syndrome creates an intense state of anxiety and

thousands of phobic thoughts. It is this state of this un-reality that brings illnesses for which doctors in the Western countries write millions of prescriptions for Tranquillisers and sleeping pills. The meditative environment in the Har Mandir and other similar Temples of different religions provide the help to the human to manage stress. It is the green Medicine.

Meditation has been shown to produce interesting changes in the human body, such as slowing and even stopping heart beat. The consumption of Oxygen by the body is shown to have decreased by 20%, also reducing the output of carbon dioxide. Breathing is fast about 70 breaths in child and decreases to about 15-6 breaths per minute in adults.

Meditation also produces changes in the electrical activities of the brain. It relaxes the subject thoroughly recording alpha waves. Physiological response during meditation has been shown in the increased resistance of the skin to an electric current.

Experiments on persons practising TM, which is essentially the mental perceiving of thought or sound, shows that "Oxygen consumption fell sharply from 251 cubic centimeters per minute in the premeditation period to 211 cubic centimeters during meditation, and in the post-meditation period, it rose gradually to 242 cubic centimeters.

Similarly, carbon dioxide elimination decreased from 219 cubic centimeters per minute beforehand to 187 during meditation and then returned to about the premeditation level afterwards". (109).

Blood pressure fell during meditation, as also lactate level in the blood.

In subjects under stress, "fight or flight" syndrome there was a marked increase found by Walter B. Cannon in blood pressure, heart rate, blood flow to the muscles and oxygen consumption. I have discussed the effects of stress and Relaxation-Meditation in several cases of mental and psychosomatic disorders (45, 47, 56, 51, 52, 56) in urban population.

The Sikh meditation, in addition, makes use of singing hymns, as the poetry of the Guru Granth, as already noted, is tuned to the major Ragas. Music with instruments has a very relaxing effect on the body, mind and soul. Therapeutic effect of Music or chanting of hymns on controlling High Blood Pressure and Stress are abundantly known not only in human but in animals and even plant growth and development.

The Sikh practise of spending an hour or two morning and evening in the holy environment of the Temple is a panacea for all ills that pollution causes in over-crowded towns, where hundreds and thousands of automobiles belch, with industrial installations, continually steady streams of poisonous gasses, smoke and particulates. Medication and Meditation go together for Healthy, Happy, Harmonious and Holy Life on the planet, is the theory and practise in Sikh Faith.

REFERENCES

1. Alvin, P.de T, and T.T. Kogłowski (1977) Ecophysiology of Tropical Plants. *London*
2. Anonymous (1989) Our Common Future, World Commission on Environment, 3rd *reprint Oxford* . *Oxford*
3. Bhattacharya, V.R. (1982) The Face of Rural India. *New Delhi*
4. Brierley, J.K. (1976) Biology of the Social Crisis. *London*
5. Bunce, M. (1982) Rural Settlement in an Urban World. *London*
6. Burton, I., R.W. Kates and G.F. White (1978) The Environment as Hazard. *Oxford*
7. Chidbhavananda, Swami (1971) Facets of Brahma or Hindu Gods *Tirupparaiattural*
8. Cunningham, J.D. (1853) History of the Sikhs, 2nd edit. *London*
9. Eccles, Sir John, edit, (1982) Mind and Brain. *Washington*
10. Edington, J.M. and M.A. Edington (1979) Ecology and Environmental Planning. *New York*
11. Ehrlick, P.R. and A.H. Ehrlick (1970) Population, Resources Environment : Issues in Human Ecology. *Freeman*
12. Ehrlick, P.R., A.H. Ehrlick and J.P. Holden (1977) Ecoscience : Population, Resources and Environment. *Freeman*
13. Field, Dorothy, (1944) The Religion of the Sikhs. *London*
14. Friday, L.E. and R.A. Lasky, edit. (1989). The Fragile Environment. *Cambridge*
15. Ghosh, P.B. and A. Chaudhury (1989) Copper, Zinc and Lead in Hooghly Estuary. *Env. Eco.* 7 (2)
16. Gupta, Hari Ram (1939-44) History of the Sikhs. 1739-1799, 3 vols.

17. Haanel, C.F. (1976) The Master Key : Health, Power, Wisdom, Wealth, *Psychology Publ. Co. Ltd. Marple*
18. Hall, P. (1977). World Cities, 2nd edit. *London*
19. Holdgate, M.W. and M.J. Woodman, edit. (1978) The Breakdown And Restoration of Ecosystems. *London*
20. Hutchinson, T.C. and M. Havas, edit. (1978) Effects of Acid Precipitation on Terrestrial Ecosystems, *London*
21. Ives J. (1989) Deforestation in the Himalayas-The cause of increased flooding in Bangladesh and Northern India. *Landuse Policy* 6 (3).
22. Jayaswal, R. (1988) Socio-psychological Dimensions of Environment and Forestry, *Man Devol.* 10 (3)
23. Jones, H.G., T.J. Flowers and M.B. Jones (1989) Plants Under Stress. *Cambridge*
24. Kaul, V.R., D.P. Zutshi and K.P. Dubey (1988) Trace Metal Content of Some Kashmit Lakes. *Ind. J. Eco.*, 14 (2).
25. Kaur, Sahib (1985) Sikh Thought. *New Delhi*
26. Khare, A. (1988) Forestry Research-an Asian Perspective... *Wastelands News* 4 (1)
27. Khemani, L.T., G.A. Momin; P.S. Prakash Rao; P.D. Safai, G. Singh and R.K. Kapoor (1988) Spread of Acid Rain Over India. *Atmosph. Env.* 23.
28. Kohli, S.S. (1976) A Critical Study of Adi Granth, 2nd Edit. *New Delhi*
29. Kumar, N. and V. Singh (1988) Sensitivity of *Mangifera indica* and *Psidium guayava* plants to SO₂ Pollution. *Nat. Acad. Sci. Lett.* 11 (6).
30. Landy, M. edit. (1979) Environmental Impact Statement-Glossary, *London*
31. Levine, S. (1971) Stress and Behaviour, *Sci. American*
32. Love, G.A. and R.M. Love, edit. (1970). Ecological Crisis : Readings for Survival. *New York*
33. Loveless, A.R. (1987) Principles of Plant Biology for the Tropics. *London*
34. Macauliffe, M.A. (1909) The Sikh Religion, 6 vols. *London*
35. Mascaro, Juan (1970) The Upanishads, *Penguin Books*.

36. Melkania, N. P and U. Melkania (1988) Natural Resources and Interpreted Rural Development in Himalaya. *Sci. and cult.*
37. Naidu, P.R. (1988) Environmental Health. *J. Public Health* 32 (2).
38. Narang, G C. (1912). The Transformation of Sikhism, *Lahore*
39. Nayar, M.P., D.C.S. Raju and M. Ahmedullah (1980) The Dwindling Flora of Andhra Pradesh, A Call For Conservation. *Ind. J. Forestry* 9 (4)
40. Philip, H.R.H. Prince (1988). Down to Earth. *London*
41. Pledge, H.T. (1966) Science Since 1500. *London*
42. PURI, G.S. (1960) Indian Forest Ecology, 2 Vols. *New Delhi*
43. (1973) An Assessment of the Role of Science, Technology and Religion in the life Fulfilment of Man as an Individual and Society. *Institute of Research and Education in Future Studies.* World Future Research Conferences. Rome Vol. 1. pp. 319-32. *Rome*
44. (1973) Revival of Religion as Yoga Experience as a Technology of the Future for the Integral Development of Man in Urban Industrial Society. *Ibid*, Vol. IV: 129-141 *Rome*
45. (1974) The Health Hazard of Stress in the Urban-Industrial Environment of Developed Countries. *Int. Jour. Eco. & Env. Science.* Vol. I : pp. 53-56. *New Delhi*
46. (1974) Consciousness : The New Ecology of Man in Harmony With His Own Self : Interfaith Consultation to Consider the Question, What is Man ? *St. Georges House, Windsor*
47. (1974) Yoga-eco-psychica : a New Concept in

Mental Health. *Lamp* Vol. I. (6) : 4.

Liverpool

48. PURI, G.S. (1975) Some Aspects of Human Ecological Problems in Developing Countries. *Sci. & Culture (India)* 41 (4) : 146-54).
49. (1975) The Ecology of Human Development as a Continuing Process. *Mankind 2000*:pp. 174-195
50. (1975) Human Ecology And the Phenomenon of Disablement in the urban Environment. MSS.
51. (1975) International Meeting on Ecology, Vienna-Sept. 15th to 19th, 1975 The Challenge of Stress in Human Health in Urban Ecosystem : Roc HESCI Symposium pp. 301-313, *UNESCO-Kyoto*
52. (1975) Yoga-Relaxation and Meditation 3rd edit. Roopvati Publication-*Liverpool*
53. (1977) Health, Happiness, Harmony and Holiness. *Sefton News* p. 6.
54. (1979) The Biological basis of Psycho-Social and Spiritual Needs in the Urban Ecosystem. *Progress in Ecology* Vol. III pp. 179-198 *New Delhi*.
55. (1980) God in Godless Age. *Spokesman, Guru Nanak Number* : pp, 23-36. *New Delhi*
56. (1981) The Holistic approach to Health and Healing : Drugless Therapy, International Conference on the Unity of Science. Seoul, Vol II : pp 813-846
57. (1982) The Anatomy of Peace. The eleventh *Int. Conf. on the Unity of Sciences*. Philadelphia 23-28 Nov. 1982.
58. (1983) The Ecology of God : The Conceptualisation of One in All and All

- in One For Peace of Mind. Text of a talk to Liverpool Poly Philosophical Society featured in *Lamp*. Vol. IV.
59. PURI, G.S. (1984) The Experience of God. New Era Conference on God : The Contemporary Discussion *Puerto Rico Dec. 30, 1983-Jan. 4, 1984.*
60. (1985) Some Problems of Human Ecology in India : In Human Ecology-an Indian Perspective; edited by G.S. Nathawat, Zena Dash and G.J. Unnithan. *Jaipur* : pp. 103-109.
61. (1986) Raj-Jog-Bhog : The Pleasure Trilogy in the Hindu and Sikh Faiths. *Asian Observer*, pp. 5-8. *London*
62. (1989) The Sikh Response to Conservation of Nature, *Spokesman Baisakhi 10 Nov. 17 April 1989.*
63. (1989) Nature Consciousness in the Sikh Faith, *Journ. Studies in Sikhism and Comparative Religions* No. 8 (1) : 91-101 Guru Nanak Foundation *New Delhi*
64. (1989) Nature Consciousness in Sikh Faith. In World Religions in Education. Humankind and the Environment, Shop Working Party/CRE. edited by Clive Erricker and Vida Barnett, Aug. 1989 : pp 32-34, London.
65. (1989) The Sikh View of Nature. *Mosaic* No. 2 Aut. 1989, The Newsletter of the Multifaith Centre, *Birmingham*
66. (1989) Ek Onkar, OM and Onkar, *Sikh Courier* Spring, Summer Issue 1989, pp. 30-32.
67. (1989) Moral Ecology and Sustainable Development. Commonwealth Human Ecology Council Meeting. *Edinburgh*

- Aug. 1989
68. PURI, G.S. (1989) The Lotus Feet of the Master, *Sikh Patrika* Vol. 8 7. July 1989 : pp. 5-7
69. (1989) The Holistic View of Sikhism. *Spokesman. The 38th Ann. No. Oct.* 1989 : pp. 11-14.
70. (1990) Science, Religion, Environment Interactions. Paper offered at the Spring School for Ministers of Thames North & Eastern Provinces at Western College, Cambridge, March 1990. *The Sikh Courier, International.*
71. (1990) Amrit : The Mystical Formula of Life Evergreen, *Sikh Bulletin* No. V : pp. 21-35.
72. (1990) Spiritual Concerns for the Environment. Participatory paper for the World Convocation on Justice, Peace and Integrity of Creation, Organised by World Council of Churches at Seoul March 5-13th 1990. *Sikh Review* Vol. 38 (8) : pp. 12-22, *Calcutta.*
73. (1990) Environmental Crisis and Third World Countries : Text of *Lectures* delivered at the Guru Nanak University, April 1990. *India*
74. (1990) World Festival of Greening the Earth *Home and Indian Abroad London*
75. (1990) Charan Amrit : Nector of the Lord's Feet. *Spokesman Guru Gobind Singh* No. pp. 13-14
76. Puri, G.S. V.M. Mehar Homji, R.K. Gupta and S. Puri (1984-1989). *Forest Ecology* Vols. I & II, *New Delhi*
77. Reddy, V. (1988) Deforestation and Its Impact on Ecological Problems with special reference to

- Western Ghats, *Ind. J. Env. Prot.* 8 (12)
78. Radha Krishnan, S. (1923-26) Indian Philosophy, London
 79. Repetto, R. and M. Gillis (1989) Public Policy and the Misuse of Forest Resources. Cambridge
 80. Saikia, D.K; R.P. Mathur and S.K. Srivastava (1988) Heavy Metals in and Sediments of Upper Ganga. *Ind. J. Env. Health* (1)
 81. Samraj, P.B. Haldorai, R. Ragupathy and C. Henry (1985) Measures For the Environmental Protection of Nilgiri Hills-an Ecological Perspective. *Nat. Seminar Pollution Control. Env. Management*, Nagpur. 17-19 March 1985.
 82. Sharma, R.D. and I.C. Gupta (1989) Effects of Tree Covers on Soil Fertility in Western Rajasthan, *Ind. Forester*, 115 (5)
 83. Simmons, J.B., R.I. Beyer, P.E. Brandham, G. Li. Lucas and V.T.H. Parry, edit. (1976). Conservation of Threatened Plants. London
 84. Singh, Atamjit (1980) Sikhism and Social Change. *Studies in Sikhism and Comp. Religion*, Vol. 5 (1): 96
 85. Singh, B. (1988) Biomass Potentials of Some Firewood Shrubs of North India : *Biomass*, 16 (3).
 86. Singh, Ganda (1935) Banda Singh Bahadur, New Delhi.
 87. Singh, Gopal (1978) Sri Guru Granth Sahib-Translated and annotated by, 4 Vols. Chandigarh
 88. Singh, Gurmukh Nihal edit. (1969) Guru Nanak, His Life, Time and Teachings, Guru Nanak Foundation, New Delhi.
 89. Singh, Shri Singh Sahib, Harbhajan (1987). The power and Blessings of Siri Guru Granth Sahib. *Sikh Dharma Times*, Vol. I (5) Los Angelos (1988) Technology of Guru Mantra. Ibid Vol. 1 (6) Los Angelos

90. Singh, Ishar (1985) *The Philosophy of Guru Nanak* 2 Vols. *New Delhi.*
91. Singh, Bhai Jodh (1986) Religion and Philosophical Thoughts of Guru Nanak, *ibid.* pp. 1-12.
92. Singh, Khazan (1914) *History and Philosophy of the Sikhs,* *Lahore*
93. Singh, Khushwant (1963-66). *A History of the Sikhs* 2 Vols. *London*
94. Singh, L.B. (1960) *The Mango, London.*
95. Singh, L.B. (1977) *Mango.* In *Ecophysiology of Tropical Crops*, edited by P. de T. Alvin and T.T. Kozlowski. *London*
96. Singh, Sher (1967) *Philosophy of Sikhism*, 2nd edit, *Judhundur*
97. Singh, Trilochan, Bhai Jodh Singh, Kapur Singh, Bawa Harkishan Singh, Khushwant Singh, Translation by (1973) *Selections From the Sacred Writings of the Sikhs*, Revised by George S. Fraser. Introduction by S. Radhakrishnan. Foreword by Arnold Toynbee, *George Allen & Unwin Ltd. London*
98. Singh, R.P. (1989) Hydrological Response of Coniferous Forest in Temperate Region of Himachal Pradesh. *The Indian Forester* 115 (5)
99. Singh, H.S. (1985) *Junior Encyclopaedia of Sikhism,* *New Delhi*
100. Tachakar, S.S. (1989) The Bhopal Disaster : Lessons For Developing Countries; *Environ. Conservation* 16 (1) : 65-66
101. Talib, Gurbachan Singh (1982) Selections from the Holy Granth. *New Delhi*
102. Tiwari, T.N., P.K. Bose and S.C. Das (1988) Conceptual Studies on the Role of Oxygen in Environmental Pollution Effects. *J. Env. Sci., 23*

103. Toribare, T.Y., M.W. Miller and P.E. Morrow, edit. (1979) Polluted Rain. *New York*
104. UNEP (1989) Our Planet, *Nairobi*
105. UNEP (1990) Action on Ozone, (*Nairobi*)
106. UNESCO (1984) Conservation, Science and Society. Vols. I & II, *Paris*
107. UNESCO (1988) Man Belongs to the Earth, *Paris*
108. USDA, edit. (1955) Water. The Year Book of Agriculture. *Washington DC.*
109. Wallace, R.K. and H. Benson (1972) The Physiology of Meditation. *Sci. American*
110. Warner, S.B. Jnr. (1972) The Urban Wilderness. *London*
111. Weier, T.E., C.R. Stocking and H.G. Barbour (1974) Botany, an Introduction to Biology, *Wiley London* 5th edition.
112. Wendt, H. (1963) The Romance of Water, *London*
113. Worster, D. (1989) The Ends of the Earth : Perspectives of Modern Environmental History, *Cambridge*.
114. Wurtman, R.J. (1975) The Effects of Light on the Human Body, *Sci. American.*

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